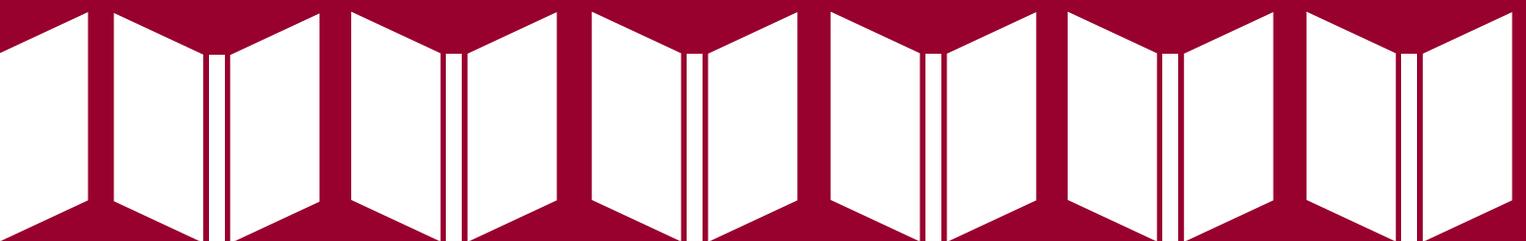


ISSN No.  
0146-9283

**Fall  
2010**

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Vol. XXXVIII, Number 1, Fall 2010

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*Educational Considerations Design/Layout by  
Mary Hammel, Kansas State University*

**Educational Considerations** invites subscribers for only **\$13.00** annually. **Educational Considerations** is published and funded by the College of Education at Kansas State University. Address correspondence to Editor, *Educational Considerations*, Bluemont Hall, Kansas State University, Manhattan, KS 66506 or call (785) 532-5543.

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*Educational Considerations* is a peer-reviewed journal published at the College of Education, Kansas State University. *Educational Considerations* and Kansas State University do not accept responsibility for the views expressed in articles, reviews, and other contributions appearing in this publication. In keeping with the professional educational concept that responsible free expression can promote learning and encourage awareness of truth, contributors are invited to submit conclusions and opinions concerned with varying points of view in and about education.

*Educational Considerations* is published two times yearly. Editorial offices are located at the College of Education, Bluemont Hall, 1100 Mid-Campus Drive, Kansas State University, Manhattan, KS 66506-5301. Correspondence regarding manuscripts should be directed to the Executive Editor

at fecrampton@gmail.com. No remuneration is offered for accepted articles or other materials submitted.

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Printed in the United States of America.

# ***Educational Leadership Challenges in the 21st Century: Closing the Achievement Gap for At-Risk Students***

Randall S. Vesely, Guest Editor

The purpose of this special issue is twofold: To explore the challenges educational leaders face in addressing the achievement gap for at-risk students; and to seek solutions. Included in this issue are five articles which explore various aspects of this challenge, ranging from the role of superintendents to funding concerns. In the first article, "The Incidence of At-Risk Students in Indiana: A Longitudinal Study," Vesely sets the stage with an exploration of historical definitions of student "risk" and proposal of a definition based upon a current synthesis of research. He then analyzes the change in the incidence of at-risk students in Indiana over a ten year span using that framework. Although some readers may think of Indiana as a rural, low poverty state with a homogenous population—and therefore one with a low incidence of risk factors—the author's data analysis reveals a startling and concerning level of student risk, that increased between 1999 and 2009 for almost all potential risk factors.

In the second article, "The Role of Superintendents in Improving Instruction and Student Achievement," Mac Ivers posits that because increasing high school graduation rates is a systemic issue for school district leaders, not just a school level issue, the district office plays a key role in narrowing the graduation gap and ensuring that all students are well-equipped for college and career. This article articulates a systematic, integrated approach to addressing this issue where both district and school leaders: (1) Analyze data to identify and address early warning indicators of dropout, including policies and practices related to student attendance, behavior, and course failure; (2) build consensus among school leaders and faculties on the need to implement research-based practices to reduce absences, suspensions, and course failures; and (3) create integrated whole school reforms and school level student support structures, including early warning systems that will ensure appropriate, timely interventions to keep all students on track to on-time graduation.

In the third article, "Native American Educational Leader Preparation: The Design and Delivery of an Online Interdisciplinary Licensure Program," Vogel and Rude describe an innovative online interdisciplinary Master's degree program in educational leadership and special education that was developed to prepare Native American school leaders for schools with substantial Native American student populations. This article not only describes the context, design, and evaluation of the program for the first two student cohorts, but also candidly presents the challenges and lessons learned related to start-up and implementation. Although the focus of the study is a single program, others interested in leadership preparations programs for historically under-represented groups will find the authors' findings insightful and thought-provoking.

Knoepfel and Rinehart authored the fourth article, "Student Achievement and Principal Quality: Explaining the Relationship,"

in which they argue that educational accountability requires a fundamental change in the way that schools are led. The authors assert that the adoption of content standards and corresponding state assessments offer school leaders a wealth of data. As a result, data-driven decision making techniques enable them to use data in a reflective process to drive school improvement. Knoepfel and Rinehart propose the use of canonical analysis, a multivariate statistical analytic approach, as a means by which educational leaders can examine multiple measures of student achievement in order to prioritize school improvement initiatives. Specifically, their study examined which factors distinguish successful schools from unsuccessful schools, and they conclude that successful schools are characterized by a focus on content, especially mathematics, and preparation for life after high school. Their emphasis on the need for educational leaders to effectively use data echoes the recommendations of Mac Ivers.

The last article focuses on the funding of schools and districts with at-risk students. In "The Economics and Financing of Urban Schools: Toward a Productive, Solution-Oriented Discourse," Crampton proposes a common framework and language for discussing urban school finance and its role in improving children's lives. This article also provides a straightforward, non-technical description of the mechanics of school funding. Together, these provide stakeholders, from community members to policymakers, with the tools to incorporate the results of relevant research-based and evidence-based analyses into solution-oriented conversations. The article ends with eight recommendations for those who seek to improve the education of urban children on how they can become more engaged in this discourse.

Together, these articles continue an important line of inquiry on the complex educational challenge of closing the achievement gap for at-risk students. Because our students will face an increasingly competitive global economy, the United States cannot afford academic achievement and high school graduation rates that trail those of our developed nation peers—and even those of some developing countries. Educational leaders must embrace "the fierce urgency of now"<sup>1</sup> and address head on the needs of at-risk students so that they may be academically successful.

<sup>1</sup> E. Ethelbert Miller, "Remembering King and the 'Fierce Urgency of Now,'" National Public Radio, <http://www.npr.org/templates/story/story.php?storyId=122610865>.

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# The Incidence of At-Risk Students in Indiana: A Longitudinal Study

Randall S. Vesely

## Introduction

Elementary and secondary students can be impacted by a number of risk factors, all of which can have a negative influence on their academic success. To that end, the identification of risk factors is an important first step in closing achievement gaps. For example, clear evidence of an achievement gap can be found in Indiana's high school graduation rate where, in 2009, 84.4% of white students graduated compared with 66% of African American students; 58.6% of students with disabilities; 61.5% of students with limited English proficiency, and 68% of students in poverty.<sup>1</sup> (See Figure below for these and other comparisons.) This study took a longitudinal approach to the analysis, comparing the incidence of at-risk students in Indiana between 1999 and 2009. Unlike much previous research, this study utilized a research-based typology of risk factors to ensure accuracy and consistency over time. The article begins with a brief historical review of the research literature on the definition and identification of risk factors. In the second section, research methods and data sources are described. These are followed by the results of the analysis and conclusions.

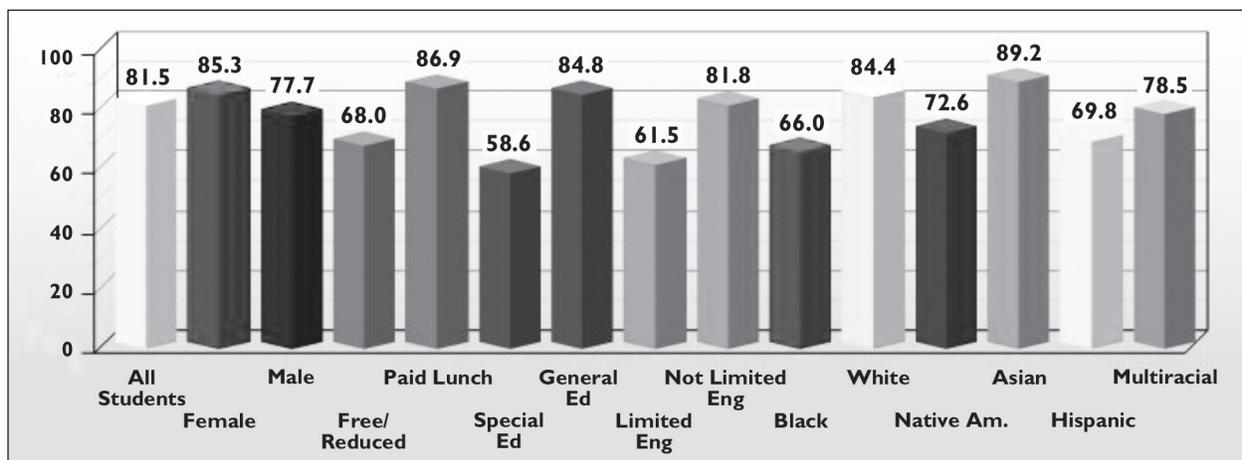
## Defining Risk

A review of the research literature on the definition of student risk factors reveals an evolving body of knowledge. In the 1960s, factors that placed school-aged children at risk of poor academic performance were attributed to cultural deprivation, and schools responded by creating compensatory enrichment programs that "attempted to create a middle-class culture for them [students]."<sup>2</sup> Subsequently, lack of access to quality education was considered the primary cause of at-risk status, particularly poor, minority students, being identified as educationally disadvantaged, and "resulting educational programs focused on... the lack of fit between poor, minority children and their schools."<sup>3</sup>

By the 1980s, the definition of student risk had broadened considerably. In 1988, McCann and Austin defined at-risk students as those "...who, for whatever reason, are at risk of not achieving the goals of education, of not meeting local and state standards for high school graduation, of not acquiring the knowledge, skills, and dispositions to become productive members of the American society."<sup>4</sup> The authors identified risk factors in terms of student behaviors and community and family characteristics that interfered with the educational process. Student risk behaviors included truancy; drug and alcohol use; suicide attempts; pregnancy; and commitment of disruptive acts. Risk factors associated with community and family background characteristics were limited English proficiency; single parent status; low parental education attainment; and poverty.

In 1994, student risk was defined even more broadly although there was some overlap with McCann and Austin. Pisapia and Westfall referred at-risk students as "...those who, because of a combination and interaction of multiple variables, possess characteristics that are likely to result in the student's failure to graduate from high school, to attain work skills, and to become a productive member of society."<sup>5</sup> They identified three groups of factors that placed students at-risk: Social/family background; personal problems; and

Figure  
2008-09 State Graduation Rate by Group



Source: Indiana Department of Education.

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school factors. Factors within the social/family background group were low socioeconomic status; sibling or parent dropout; dysfunctional family; language; and poor communication between home and school. Personal problems included low self-esteem, disability, teen pregnancy, substance abuse, and suicide attempts. School factors were defined as absenteeism; retention; behavioral problems; suspensions; lack of quality programs and services; and school climate.

In 2002, in, *Educating At-Risk Students*, Stringfield and Land offered a concise definition of at-risk students as those "...who, through no fault of their own, are at risk of low academic achievement and dropping out before completing high school."<sup>6</sup> In one of the volume's chapters, Land and Legters operationalized this definition by identifying seven risk factors gleaned from a comprehensive review of research.<sup>7</sup> These represented the most frequently cited individual or family-level risk factors: disability; poverty; limited English proficiency; race/ethnicity; urbanicity;<sup>8</sup> single parent status;<sup>9</sup> and low parental educational attainment.

Of the seven factors, Land and Legters found poverty to be the most consistent predictor of academic failure, with the concentration of poverty at the school level exacerbating the problem.<sup>10</sup> Land and Legters then added a new dimension to student risk; that is, the "compound nature" of risk whereby some students experience multiple risk factors. Because Stringfield and Land, and Land and Legters provided a succinct, yet inclusive, definition of student risk and a comprehensive research-based typology, their definition and typology were selected to serve as the foundation for this study.

### Research Methods

This section presents the population, data sources, variables, and analytic procedures used to answer the following research questions:

- To what extent has the incidence of at-risk students in Indiana changed over the last decade?
- What is the current incidence of at-risk students in Indiana?

To answer these questions, this study analyzed the population of Indiana public school corporations, with the corporation serving as the unit of analysis.<sup>11</sup> Data from the 2008-2009 and 1998-1999 schools years from the Indiana Department of Education were utilized.<sup>12</sup>

Six variables relevant to the research questions were selected: (1) Total student enrollment; (2) number of students with disabilities; (3) number of students living in poverty; (4) number of students with limited English proficiency;<sup>13</sup> (5) number of ethnic/racial minority students; and (6) number of students attending urban schools. Students with disabilities were defined as those having an Individual Education Plan (IEP) while students living in poverty were defined as those who qualified for free or reduced-price school meals. Urban schools are defined by the Indiana Department of Education as those in a school corporation which is located in a city with a population of 50,000 or more; or an urbanized area of at least 50,000 with the surrounding area having a minimum population of 100,000.<sup>14</sup> Data for parental education attainment by school corporation were not available and so could not be included in the analysis. Using the data described above, descriptive statistics and the incidence of risk factors were calculated and compared for 1999 and 2009. Pearson Product Moment correlations were calculated to determine the compound nature of risk in both years.

### Results of Analysis

In 1999, Indiana educated 986,908 public elementary and secondary students in 293 corporations. (See Table 1.) School corporation size ranged from 199 to 42,084 students, with a mean enrollment of 3,380 and a median of 1,919. In 2009, total student enrollment increased slightly to 1,028,885 students, an increase of 41,977 students or 4.3%. However, minimum and maximum corporation size fell to 168 and 34,050 students respectively. At the same time, the mean and median increased to 3,524 and 1,942 respectively. Overall, student enrollment and the size of the average school corporation increased modestly over this time period. The remainder of this section presents the results for each risk factor, the compound nature of risk, and the incidence of risk factors.

**Table 1**  
**Total Student Enrollment by District**

Descriptive Statistics	Enrollment by Year	
	1999	2009
Minimum	199	168
Maximum	42,084	34,050
Range	41,885	33,882
Mean	3,380	3,524
Median	1,919	1,942
Standard Deviation	4,376	4,349
Sum	986,908	1,028,885

N = 293

**Disability.** In 1999, Indiana educated 145,459 students with disabilities. (See Table 2.) Enrollment by school corporation ranged from 4 to 7,315 students with a mean enrollment of 496 and a median of 284. Over the ensuing decade, enrollment of students with disabilities increased substantially to 173,406, an increase of 27,947 or 19.2%. However, while the minimum by almost doubled, the maximum enrollment by corporation fell. At the same time, the mean and median increased to 592 and 312 students respectively.

**Poverty.** Indiana enrolled 273,307 low income students in 1999. (See Table 3.) By school corporation, enrollment ranged from zero to 31,362, with a mean of 936 students and a median of 396. The number of students in poverty jumped to 426,007, an increase of 152,700, or 55.9%, a decade later. In addition, the mean and median increased to 1,459 and 681 students respectively. The considerable skew between the mean and median point to a cluster of high poverty school corporations in the state.

**Limited English Proficiency (LEP).** In 1999, Indiana educated 27,023 LEP students. (See Table 4.) Enrollment by school corporation size ranged zero to 2,232, with a mean enrollment of 99 and a median of 18. In 2009, the enrollment of LEP students more than doubled to 65,541, an increase of 38,518. While the minimum remained the same, the maximum enrollment by corporation grew to 4,513. At the

**Table 2**  
**Students with Disabilities: Enrollment by Year**

Descriptive Statistics	Enrollment by Year	
	1999	2009
Minimum	4	7
Maximum	7,315	6,979
Range	7,311	6,972
Mean	496	592
Median	284	312
Standard Deviation	723	807
Sum	145,459	173,406

N = 293

**Table 3**  
**Students in Poverty: Enrollment by District**

Descriptive Statistics	Enrollment by Year	
	1999	2009
Minimum	0	40
Maximum	31,362	28,281
Range	31,362	28,241
Mean	936	1,459
Median	396	681
Standard Deviation	2,345	2,680
Sum	273,307	426,007

N = 293

same time, the mean and median increased to 241 and 27 students respectively. Here too, the considerable skew between the mean and median is important to note because it denotes a cluster of school corporations with relatively higher concentrations of English language learners.

Racial/ethnic minority. Indiana schools enrolled 158,969 racial/ethnic minority students in 1999. (See Table 5.) By school corporation size, enrollment ranged from zero to 26,696, with a mean enrollment of 544 and a median of 47. In 2009, the number of ethnic/racial minority students attending Indiana schools increased by more than half to 249,392, an increase of 90,423, or 56.9%. While the minimum increased slightly, the maximum enrollment by corporation fell by 506. At the same time, the mean and median increased to 854 and 111 students respectively. As with the risk factors of poverty and limited English proficiency, there is considerable skew in the distribution of ethnic/racial minority students in Indiana pointing to higher concentrations in a cluster of school corporations.

**Table 4**  
**Limited English Proficient Students: Enrollment by District**

Descriptive Statistics	Enrollment by Year	
	1999	2008*
Minimum	0	0
Maximum	2,232	4,513
Range	2,232	4,513
Mean	99	241
Median	18	27
Standard Deviation	247	597
Sum	27,023	65,541

N = 293

\*2009 LEP data were not available.

**Table 5**  
**Racial Minority Students: Enrollment by District**

Descriptive Statistics	Enrollment by Year	
	1999	2009
Minimum	0	3
Maximum	26,696	26,190
Range	26,696	26,187
Mean	544	854
Median	47	111
Standard Deviation	2,248	2,467
Sum	158,969	249,392

N = 293

Urbanicity. In both 1999 and 2009, 36 of Indiana's 293 school corporations were classified as urban by the state department of education. (See Table 6.) In 1999, these school corporations educated 351,584 students. Enrollment by school corporation size ranged 866 to 42,084, with a mean enrollment of 9,766 and a median of 8,149. In 2009, the enrollment of urban students decreased slightly to 350,215, a decrease of 1,369, or less than one percent. In addition, both the minimum and maximum enrollments decreased, as did the mean and median. In general, the average enrollment of urban school corporations was three times greater than that of the state average.

Compound nature of risk. To determine the existence of the compound nature of risk, Tables 7 and 8 each contain a Pearson Product Moment matrix of risk factors for 1999 and 2009 respectively. Coefficients in Table 7 confirm the existence of a moderate, statistically significant correlation ( $p < .001$ ) in 1999 between poverty

**Table 6**  
**Urban Student Enrollment**

Descriptive Statistics	Enrollment by Year	
	1999	2009
Minimum	886	915
Maximum	42,084	34,050
Range	41,198	33,135
Mean	9,766	9,728
Median	8,149	7,929
Standard Deviation	8,289	7,361
Sum	351,584	350,215

N = 36

and ethnicity/race (0.512), with weaker, but statistically significant, relationships between ethnicity/race and limited English proficiency (0.398) and poverty and disability (0.379). In 2009, compound relationships were also evident. The correlation between poverty and race/ethnicity was slightly higher (0.529) while the relationship between poverty and disability was weaker (0.294) but remained statistically significant. In addition, there was a stronger relationship, albeit moderate, between race/ethnicity and limited English proficiency (0.574).

Incidence of risk factors. The incidence of risk factors was calculated as the percentage of students identified with a particular risk factor divided by total student enrollment. In 1999, urbanicity represented the largest risk factor in that it affected 35.6%, more than one-third, of Indiana students. (See Table 9.) Poverty was second at 27.6%. The incidence of ethnic/racial minority students and those with disabilities ranked third and fourth respectively, at 16.1% and 14.7%; and the incidence of students with limited English proficiency ranked fifth, or last, at 2.7%. By 2009, the pattern of incidence had changed whereby student poverty eclipsed urbanicity at 41.4% and 34.0% respectively. Although the incidence of the remaining three risk factors increased, their ranking did not. The incidence of ethnic/racial minority students did increase substantially, by 50%, to 24.2% of student enrollments while the incidence of LEP students almost tripled to 6.4%. Finally, the incidence of students with disabilities increased approximately 14% to 16.8% of Indiana's student population.

**Conclusions**

The rationale for this study lay with the incidence of students at risk of academic failure in Indiana where academic failure was defined as low achievement or failure to graduate from high school. Using a comprehensive research-based typology, this study identified the change in magnitude and incidence of at-risk student populations in Indiana public school corporations between 1999 to 2009. At-risk children were defined not only as those living in poverty, but also children impacted by disability, race, limited English proficiency, and urbanicity. This study also sought to establish the compound nature of risk whereby some students have multiple risk factors.

**Table 7**  
**Pearson Product Moment Correlation Matrix of Risk Factors for 1999**

	DISABILITYPC	POVERTYPC	LEPPC
POVERTYPC	0.379*		
LEPPC	-0.180	0.174	
RACEPC	-0.030	0.512*	0.398*

\*Statistically significant at the .001 level.

Note: DISABILITYPC = percentage of students with disabilities; POVERTYPC = percentage of low income students; LEPPC = percentage of students identified as limited English proficient (or English language learners); RACEPC = percentage of student identified as ethnic/racial minorities.

**Table 8**  
**Pearson Product Moment Correlation Matrix of Risk Factors for 2009**

	DISABILITYPC	POVERTYPC	LEPPC
POVERTYPC	0.294*		
LEPPC	-0.246*	0.364*	
RACEPC	-0.123	0.529*	0.574*

\*Statistically significant at the .001 level.

Note: DISABILITYPC = percentage of students with disabilities; POVERTYPC = percentage of low income students; LEPPC = percentage of students identified as limited English proficient (or English language learners); RACEPC = percentage of student identified as ethnic/racial minorities.

**Table 9**  
**Incidence of Student Risk Factors**

Student Risk Factors	Incidence by Year (%)		Percent Change (%)
	1999	2009	
Disability	14.7	16.8	2.1
Poverty	27.6	41.4	13.8
LEP	2.7	6.4	3.7
Racial Minority	16.1	24.2	8.1
Urbanicity	35.6	34.0	-1.6

Although many may think of Indiana as a predominantly rural and low poverty state with a homogenous population—and hence one with a relatively low incidence of student risk factors—the reality is somewhat different. For example, the incidence of urbanicity in Indiana was 34% in 2009, similar to the national average.<sup>15</sup> Second, the incidence of student poverty as a risk factor in Indiana in 2009 (41.4%) mirrored the 50 state average of 41.3%.<sup>16</sup> The same was true of the incidence of limited English proficient students (6.4% in Indiana vs. the 50 state average of 6.2%).<sup>17</sup> However, the incidence of Indiana students with disabilities in 2009 (16.8%) exceeded the 50 state average (13.0%).<sup>18</sup> Admittedly, the incidence of ethnic/racial minority students in Indiana is substantially lower than the 50 state average of 34.8%<sup>19</sup> although these students constituted approximately one-quarter of Indiana's student population. In sum, this analysis revealed a startling and concerning incidence of student risk factors in Indiana that in almost all cases increased between 1999 and 2009.

Patterns of the compound nature of student risk in Indiana bore some similarities to 50 state analysis for 1999.<sup>20</sup> Similar moderate, statistically significant correlations were found between the incidence of poverty and ethnicity/race, and between ethnicity/race and limited English proficiency. However, although there was a moderately, statistically significant relationship between the incidence of poverty and disability in Indiana, none was found in the 50 state analysis. With these research results now available, future research can begin to analyze the extent to which Indiana focuses its resources on students at risk of academic failure in order to ensure equality of educational opportunity, a key component in addressing achievement gaps.

### Endnotes

<sup>1</sup> See, *Graduation Rate 2008-09* (Indianapolis, IN: Indiana Department of Education), <http://mustang.doe.state.in.us/TRENDS/grad4orless.cfm?pub=1>.

<sup>2</sup> Aaron Pallas, "Making Schools More Responsive to At-Risk Students," *ERIC/CUE Digest*, No. 60 (ERIC Clearinghouse on Urban Education, 1989) 1.

<sup>3</sup> Ibid.

<sup>4</sup> Richard McCann and Susan Austin, "At Risk Youth: Definitions, Dimensions, and Relationships," paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, Louisiana, 1988, 4.

<sup>5</sup> John Pisapia and Amy Westfall, "At-Risk Students: Who Are They and What Helps Them to Succeed?" *Research Brief #17*, Metropolitan Educational Research Consortium (November 1994) 3.

<sup>6</sup> Sam Stringfield and Deborah Land, ed., *Educating At-Risk Students*, 101st yearbook of the National Society for the Study of Education (Chicago, IL: University of Chicago Press, 2002) vii.

<sup>7</sup> Deborah Land and Nettie Legters, "The Extent and Consequences of Risk in U.S. Education," in *Educating At-Risk Children*, ed. Sam Stringfield and Deborah Land, 1-28.

<sup>8</sup> Ibid. Although the risk factor of urbanicity is multifaceted, Land and Legters isolated it as an independent risk factor because students attending urban schools were at greater risk of poor academic outcomes than students attending suburban and rural schools even after taking into account factors such as race/ethnicity and poverty.

<sup>9</sup> Note that single parent status was not used as a risk factor in this study because it is generally highly intercorrelated with poverty. In addition, data on the marital status of students' parents in Indiana were not available.

<sup>10</sup> Ibid., 13.

<sup>11</sup> In Indiana, school districts are referred to as "corporations."

<sup>12</sup> Indiana K-12 Education Data, <http://www.doe.in.gov/data>.

<sup>13</sup> These students are also referred to as English language learners.

<sup>14</sup> Personal communication with Karen Lane, Data Management Specialist, Indiana Department of Education.

<sup>15</sup> In 2008, the latest data available for urbanicity, the portion of the U.S. student population designated as urban was 29.4% (calculated from Table A.1.a-3," Enrollment of Public Elementary and Secondary Students, by Locale and State or Jurisdiction: School Year 2007-08," Urban Education in America, <http://nces.ed.gov/surveys/ruraled/tables/a.1.a-3.asp?refer=urban>. This designation contains students who attend school districts large, midsize, and small cities. Indiana definition's of "urban" as it relates to school corporations is more expansive.

<sup>16</sup> Source: Common Core of Data, 2008-2009 (Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 2010). <http://nces.ed.gov/ccd>.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

<sup>20</sup> Randall S. Vesely, Faith E. Crampton, Festus E. Obiakor, and Marty Sapp, "The Role of States in Funding Education to Achieve Social Justice," *Journal of Education Finance* 34 (1): 56-74. Note that 1999 represents the most recent 50-state analysis.

# Beginning with the End in Mind: The School District Office Leadership Role in Closing the Graduation Gap for At-Risk Students

**Martha Abele Mac Iver**

We need to begin with the end in mind as Stephen Covey (1989) reminds us. Graduating all students ready for college or career is the ultimate goal of the K-12 educational system. While this goal should be obvious to educational policymakers, current accountability frameworks have led many school districts to narrowly focus on student achievement and, hence, to miss the point entirely. Unfortunately, theirs could be viewed as a rational actor response to an accountability system that focuses more on improvements in test scores for the more numerous elementary schools in the district than on the graduation rates of its smaller number of high schools. “Achievement” has become so closely tied to test scores that educators sometimes lose perspective of the larger goal of graduating all students prepared for postsecondary training leading to a career.

Prior to addressing the question of district leadership in closing the graduation gap, it is important to emphasize the glaring need for more appropriate incentive structures focused on graduation rates within accountability systems for districts and schools. Up until recently, federal accountability measures under the No Child Left Behind Act (NCLB) permitted states to set low graduation rate benchmarks, which effectively resulted in assessment pass rates (test scores) as the primary focus for high school accountability. Research indicates that it is critical to place graduation rates and assessment outcomes on equal footing in accountability systems (Balfanz et al. 2007). Analyses of the Texas education system suggest that accountability systems based on testing alone are pushing the lowest performing students out of high school and reducing the graduation rate for these students and their schools (McNeil et al. 2008). There are now calls to include actual cohort graduation rates in high school accountability systems (Alliance for Excellent Education 2007, 2008; Hall 2007; U.S. Department of Education 2008a), and an increasing number of states are beginning to do so (Princiotta and Reyna 2009).

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Analyses highlighting the wide “graduation gap” between students in large American cities and those in their surrounding suburbs have increasingly focused education policymakers and practitioners on ensuring that all students successfully complete high school. The gap is as large as 40 to 50 percentage points in some metropolitan areas. Graduation rates for high poverty students are well below 50% in many major cities (Swanson 2009). Closing this gap demands focused attention. Assuming that accountability structures are revised to make increased graduation rates a top priority, how will this goal be achieved? What is the role of the district office in making this happen?

Ensuring that students progress through high school to graduation by passing courses and earning credits ultimately depends on what happens in individual schools and classrooms, but a dropout prevention approach that relies primarily on decentralization and school-centered solutions ignores the reality that graduation is a systemic issue, not just a school level issue. A district level focus is essential. Graduation rates at particular high schools are largely determined by prior attendance levels and academic readiness of the entering ninth grade class. Schools with “extreme degrees of difficulty,” where upwards of 80% of students enter behind grade level and have significant attendance or behavior problems, face great difficulty in bringing those students to graduation (Neild and Balfanz 2006a). Eighth-grade attendance has been shown to be much more important as a predictor of high school graduation than some dropout prevention and intervention efforts that begin in ninth grade (Mac Iver 2009). Student experiences and outcomes prior to high school cannot be ignored in addressing how to increase graduation rates, and individual high schools simply cannot address these issues on their own.

Elementary and middle schools are not typically judged on ultimate graduation outcomes, but these schools can exert a significant influence on the district’s graduation rate and those of particular high schools. High school attendance problems that influence dropout rates typically begin during the middle grades. Even middle grades schools with a relatively high daily attendance rate can have a significant number of students who are chronically absent (Chang and Romero 2008; Balfanz, Durham, and Plank 2008). These students can slip through the cracks without affecting the school’s accountability measures, and so middle schools do not always have an incentive to intervene. Elementary and middle schools also contribute to the dropout problem through the practice of retaining students in grade. Accountability systems can actually create incentives for schools to retain students in order to improve test scores. Students who are overage for grade because of retention are more likely to drop out of high school, even controlling for attendance, course performance, and prior test scores (Mac Iver and Messel 2011).

Public high schools usually have little control over the preparation students receive prior to entry although some, like magnet schools, have the ability to select only high performing students and to transfer students to other schools when they exhibit behavioral problems like absenteeism, discipline, or academic failure. These selective schools are often unfairly lauded as high-performing while non-selective schools with concentrations of at-risk students struggle with inadequate resources for the challenges they face. It is relatively easy for selective schools to meet performance standards because they enroll those students who are prepared for high school work and have habits of good attendance and behavior. Meeting performance

standards becomes overwhelming when the majority of ninth graders entering a high school have established behavioral risk factors such as absenteeism, behavior problems, or course failure. Without significant intervention, prior problems, particularly chronic absenteeism and course failure that predict non-graduation outcomes, quickly translate into the ninth grade warning indicators (Allensworth and Easton 2007; Mac Iver, Balfanz, and Byrnes 2009).

While “no excuses” policies rightfully emphasize the need for school leaders to actively address students’ challenges and ensure that students receive high quality instruction, it is crucial to recognize the different levels of challenge across types of schools and the need for sufficient resources to address entrenched patterns of absenteeism and lack of academic readiness. High schools with high concentrations of entering students who already display such warning signals require higher levels of support. The school district should be the first responder in these situations. Furthermore, the district not only needs to support high schools, but also address needs associated with dropout risks at earlier grade levels. In confronting the graduation gap, districts must adopt a comprehensive prevention approach. As Adelman and Taylor (2000, 7) stated, the district must “[move] prevention from the fringes into the fabric of school improvement.”

This article focuses first on what school districts have typically done to address graduation and dropout issues. It then presents a prevention model advocated by the Everyone Graduates Center within the Center for Social Organization of Schools at Johns Hopkins University, with particular focus on the leadership role of the district office in dropout prevention and recovery.

### **Typical School District Responses to Date**

The good news is that many districts have begun addressing the dropout problem. While this is a step in the right direction, typical responses are generally not systematic or sufficiently radical to address the issue adequately.

Formal research on district level actions aimed at reducing the dropout rate and increasing the graduation rate remains in the early stages. Hoyle and Collier (2006) interviewed central office administrators in ten urban districts to ascertain what these districts were doing to prevent dropout outcomes. They grouped responses into six overarching categories: (1) punishments and incentives; (2) personnel; (3) targeted programs; (4) alternative schools; (5) community involvement; and (6) instructional initiatives. Even this list of categories, that sought to impose order on a longer list of 38 individual district strategies identified, illustrates the scattered and unsystematic approach to dropout prevention that often characterizes district efforts. The researchers did find evidence in two districts of an attempt to encourage a teacher-team approach to discuss students at risk of dropping out and to coordinate interventions; and one district emphasized the provision of transition support for students as they began ninth grade. However, while all of the districts in the study had some type of program targeted to individual students who were at risk of dropping out, and some districts had designated personnel at the central office to coordinate dropout reduction efforts, there was no evidence of a systematic approach to dropout prevention in any of the districts.

Research in five Colorado school districts sponsored by the Colorado Graduates Initiative included district self-reports regarding initiatives aimed at addressing the dropout problems and how those

districts had used the project’s data analysis on behavioral early warning indicators to further develop their district response (Mac Iver, Balfanz, and Byrnes 2009). Several overarching strategies or approaches to the dropout problem emerged: (1) Creation of a dropout prevention and recovery office at the district central office; (2) creation of additional dropout recovery options including various types of alternative schools; and (3) focus on increasing attendance and reducing truancy.

Creation of a dropout prevention and recovery division within the central office demonstrates the high priority accorded this issue by the district, but it is important to ensure that this division does not become a “silo” that isolates discussion of the problem from other crucial divisions such as those focused on attendance and secondary instruction. It is essential that districts to broaden the focus of dropout prevention beyond programs targeted at individual students because these are often disconnected from the regular high school structure and historically have a mixed track record of effectiveness particularly when students are targeted based on demographic rather than behavioral indicators (Dynarski and Gleason 2002; Gleason and Dynarski 2002). Also, such a division can also easily become more focused on dropout recovery than on dropout prevention, especially if it is not strategically connected to other divisions on high school instruction and reform practices designed to increase achievement and graduation rates. Given the much higher cost of dropout recovery programs relative to regular high school programs (Montez, Cortez, and Cortez 2004), it is crucial that the district maintains a focus on systematic dropout prevention strategies.

Dropout recovery options are certainly important to meet the needs of the many students already disconnected from regular high schools. Students who are overage and undercredited (far short of the number of high school credits required for graduation, but much older than the typical student with comparable numbers of credits) need creative ways to earn a credential that will give them the ability to enter post-secondary education or secure a job that pays a living wage. It is tempting for districts to focus more heavily on recovery options, often through external service providers, and avoid the challenging work within the regular schools of preventing dropout outcomes before they occur.

A district policy of creating alternative schools for students with attendance and behavioral problems and for those who are still enrolled but overage and under-credited may be useful in some respects. It is important to recognize, however, that alternative schools often become district dumping grounds for problem students, and often do not have a very good track record in moving them to graduation (Gregg, 1998). However, districts must continue to build capacity within regular high schools to prevent the downward spiraling of students that often results in reassignment to alternative schools.

Focused district office attention on increasing attendance and reducing truancy is critical to address one of the key early warning indicators of a dropout outcome. Since this problem is generally distributed unequally among schools, and schools often inherit attendance problems from students’ prior schools, it requires district as well as school level attention. Unfortunately, the district office frequently waits until attendance problems reach the stage for legal and punitive actions, and give more attention to pursuing these types of interventions (e.g., truancy court, attendance hearings, community

truancy centers, etc.) rather than helping schools with more preventative types of solutions (Baker, Sigmon, and Nugent 2001, Mac Iver 2007).

### What Districts Need to Do

What do we know from the research literature on district level practices that are effective in improving student outcomes? Most of the research to date has focused on student achievement defined by test score results rather than successful completion as measured by on-time graduation rates. Results of several studies have emphasized the importance of data-driven decision making; a focus on improving instruction; a focus on professional development and capacity building; and a unified district approach to curriculum and instruction as opposed to each school making independent decisions (Elmore and Burney 1997; Snipes, Doolittle, and Herlihy 2002; Supovitz 2006; Togneri and Anderson 2003). Lessons learned from some of the comprehensive school reform models (Mac Iver and Balfanz 2000; Herlihy and Kemple 2003) have begun to be scaled up to the district level in cities like Philadelphia (Mac Iver and Mac Iver 2006); New York District #2 (Elmore and Burney 1997; D'Amico et al. 2001); San Diego (Darling-Hammond et al. 2002; Hightower 2002); and others (Hightower et al. 2002; Snipes, Doolittle, and Herlihy 2002). The increase in Philadelphia's graduation rate reported by Swanson (2009) may be due, at least in part, to district adoption of these comprehensive reform practices (Neild 2009a).

Addressing the question of building system capacity for increasing high school graduation rates, Supovitz (2008) stressed the role of the district in spearheading analysis focused on characteristics of dropouts, use of a local needs assessment, and coordination of efforts to use external partners in its response plan. In particular, Supovitz emphasized the need for districts to look to universities, comprehensive school reform developers, such as First Things First, Talent Development High Schools, or Career Academies; <sup>1</sup> and community resource groups to build capacity for developing and executing action plans to keep more students on track to graduation.

Although I agree with Supovitz about the need for a local needs assessment and the need for the district to be linked with community resource groups and other external partners, the Everyone Graduates Center advocates a more systematic approach for the district to keep students on track to graduation. To address the paralysis that often accompanies long "laundry lists" of action steps in both school improvement plans and district master plans, the center recommends an integrated, three-pronged approach, focused primarily on middle and high schools, that provides a framework for applying recommendations in the recent dropout prevention guide from the U.S. Department of Education (2008b). Here the center seeks to provide the succinct "vision and roadmap" requested by superintendents surveyed in a recent UCLA study of what is needed for "building a comprehensive system of learning supports" (Center for Mental Health in Schools 2008). This "ABC" response plan of Analysis, Building consensus, and Creating integrated structures requires leadership and supportive guidance from central office administrators to individual school leaders. *Analysis* for data-driven decision making must include both quantitative analysis of individual student data as well as collection and analysis of qualitative data on existing district and school level policies and practices related to attendance, behavior, and course grading at the middle and high school levels. The need to *build consensus* among school leaders and faculties on the need for

research-based practices that will help to prevent dropout outcomes cannot be ignored. Finally, *creating integrated whole-school reforms and school level student support structures*, often using the help of external partners, is crucial for ensuring appropriate, timely interventions to keep all students on track to on-time graduation.

#### *Analysis for Data-Driven Decision Making*

What is necessary to equip districts to engage in a productive data-driven decision making (DDDM) process aimed at increasing their graduation rate? It is crucial to move beyond the focus on test score data that has thus far dominated the DDDM process (Mac Iver and Farley-Ripple 2009). A series of studies identifying early behavioral indicators of a dropout outcome (Allensworth and Easton 2005, 2007; Balfanz and Herzog 2005; Balfanz, Herzog, and Mac Iver 2007; Neild, Stoner-Eby, and Furstenburg 2008; Roderick and Camburn 1999) laid the groundwork for the type of district data analysis advocated by the guidebook of America's Promise Alliance (Balfanz et al. 2008) which has been carried out in several districts (Mac Iver, Balfanz, and Byrnes 2009; Neild and Balfanz 2006b; Plank, Boccanfuso, and Balfanz 2010). Cohort studies in several urban districts which used individual student-level data to follow a cohort of sixth graders or ninth graders forward to their on-time graduation year (and sometimes a year or two past) identified key early warning indicators of a dropout outcome: chronic absenteeism; behavior problems; and course failure. Data on these early warning indicators are essential to guide intervention efforts.

While some districts have found it useful to conduct their own longitudinal cohort studies, evidence is emerging that the early warning indicators generally remain the same across districts. A more feasible district level analysis, which would not require data over a five to eight-year period, would focus on the current distribution of students with early warning indicators across schools, particularly in grades six through nine, to help district leaders understand which schools need additional resources to implement interventions. In addition, district leaders must ensure that either district staff produce this type of analysis on a regular basis or that external partners, e.g., local universities or research organizations, are recruited to provide assistance in obtaining these types of analyses, as occurred in the analyses conducted for districts in the Colorado Graduates initiative (Mac Iver, Balfanz, and Byrnes 2009). Regardless of how these analyses are obtained, it is crucial for the district office to have current data on the number and concentration of students with early warning indicators in attendance, behavior, and course failure in order to build capacity to deliver the needed interventions.

Another important analysis is a "segmentation study," which is a retrospective study requiring the merging of individual student level data on all dropouts in the most recent year available with data several years prior to characterize dropouts not only demographically but also according to attendance patterns and high school credit accumulation. Such a study can help in determining the size of particular groups of dropouts for strategic intervention planning, for example, for those students within only a couple of credits of graduation vs. overage/undercredited students who would need a different type of high school completion program.

Districts not only need to conduct such analyses at the central office level, but also ensure that schools receive usable data in a timely fashion to be able to plan for meeting the needs of their students. For example, high schools need information on incoming ninth

graders to identify and plan interventions to address likely problems in attendance, behavior, and course failure. Ideally, the district office would help to disseminate automated real-time data to schools via systems that identify students with warning signals in order to help teams of teachers and other school staff track school level interventions and their effectiveness.<sup>2</sup> In addition, to be able to use early warning data in an effective way, school-based staff members must receive the appropriate professional development. This issue is discussed further in the section “Creating Integrated Structures.”

Besides analyzing regularly collected administrative data, the district office needs to collect and analyze qualitative data regarding actual practices in schools and classrooms in order to make good decisions about what needs to be done to increase the number of students graduating. While the school district may have implemented a variety of programs and initiatives to address the challenge of students leaving high school without a diploma, it may not have undertaken a systematic assessment of policies and practices. Such an assessment is key to data-driven decision making at the district level (Mac Iver and Farley-Ripple 2009). It involves audits of district and school level policies and programs aimed at dropout prevention and intervention; students’ classroom experiences through observations and surveys; and resources available for dropout prevention and intervention. In particular, it is crucial for school and district leaders to have good information about what is happening in classrooms every day and what kinds of school level practices could be contributing to attendance and behavior problems and course failure. The processes of collecting and reflecting upon data in each of these areas are discussed in more detail by Balfanz et al. (2008) in the *America’s Promise Grad Nation* guidebook.

This process of data analysis should also inform district planning regarding resource allocation. Ensuring that schools have the resources necessary to address these early warning indicators among their students is a crucial role for the district office to play. Given the competing demands for scarce resources, the issue of building consensus among major stakeholders becomes particularly important.

#### *Building Consensus*

Once both the quantitative and qualitative data analyses discussed above have been conducted, decisions about action steps at the district and school level will require a consensus-building process. This begins with discussion and interpretation of the data and potential changes that may be needed in resource allocation, district policies, and how teachers and administrators spend their time and do their work. While leaders are rightly advised not to begin such a process with their own preconceived ideas about the “right answers” (National Association of Secondary School Principals [NASSP] 2009), there are some overarching values and fundamental approaches upon which good leaders should seek to build consensus.

One of the key issues in such a consensus-building process is to help all members of the district community to begin with the end in mind; that is, to redefine their educational role to include the goal of keeping students on track to graduation. This might be a new idea for those teachers who view their role as limited to delivering course content. The idea that “team” is the key to lasting change” (NASSP 2009, 9) may be a shared value in the abstract, but structuring schools around teacher teams may require a period of persuasion and consensus building among faculties who value their own independence and resent greater demands upon their time. To that

end, examples of how teacher teams have successfully moved large numbers of students back on track to graduation can be particularly persuasive in such a consensus building process (*Diplomas Now* 2010).

As districts seek to implement strategies to keep all students on track to graduation, one potentially contentious issue is the idea of preventing course failure rather than simply letting students fail and assuming someone else will help them recover course credits needed for graduation sometime later. Top-down district attempts to address this issue do not have a good track record. The decision by numerous Texas districts to reduce course failures by mandating a “no grade lower than 50” policy was a response to theoretical evidence (Guskey 2002) that averaging zeros in the computation of final course grades often leads to an average below 60, i.e., a failing grade. Opposition to this policy influenced the Texas state legislature to pass Senate Bill 2033, stating that districts “may not require a classroom teacher to assign a minimum grade for an assignment without regard to the student’s quality of work” (Texas Education Agency 2009). This law has obviously diminished any potentially positive effects on student outcomes. A process of building consensus with teachers could have addressed the more fundamental issue than zeros: the opportunity for students to recover from failing interim grades, and the need for interventions to occur to ensure that students have such an opportunity. Skillful district leaders can build on a common agreement that students should be able to recover at some time, and move that conversation to discuss the district and societal costs involved in credit recovery after course failure as compared with attempts to prevent course failure.

The policy of retention in grade is another potentially contentious issue despite its demonstrated negative effect on graduation probabilities. A district practice of allowing (or even encouraging and mandating) the retention of students in elementary and middle school when they don’t meet certain criteria for promotion may have considerable support among teachers. Skillful district leaders can help groups to reach agreements to ensure the students are ready for the next grade level, for example, by helping them brainstorm alternatives to retention such as the provision of additional instruction time.

As district and school level planning unfolds, consensus has to be built around numerous strategies. While the urgency of a dropout problem may tempt leaders to skip over the process of building consensus, it is a crucial step for achieving lasting change. This type of leadership must be modeled at the district level in a way that principals can imitate as they lead their faculties. As Supovitz (2006, 9) emphasized: “District leaders are best situated to cultivate the need and rationale for change and to address people’s natural aversion to the disruption and psychological dislocation caused by change, and to shepherd school faculties through the psychological transformation that accompanies retraining.” Narrowing the graduation gap will require some fundamental changes in what happens within districts and schools, and district leaders need to motivate and equip the people who will be enacting those changes if they are to make a lasting difference.

As district leaders build consensus around what needs to happen to ensure that all students are reaching graduation, the issue of how to allocate scarce resources to achieve this end will also require skillful negotiation. Balancing the needs of both on-track and off-track students can prove particularly difficult. Finding the most effective

ways to deploy scarce resources will be essential. This leads us to the third recommendation: The importance of an integrated framework for keeping all students on track to graduation.

### *Creating Integrated Structures*

Although the details of each district and school response to keeping all students on track to graduation will necessarily differ, effective district leaders also work to build consensus on the need for an integrated approach as opposed to the fragmented and piecemeal approaches that are far too common in the pages of district master plans and school improvement plans. District leaders must lead the way in creating integrated whole school reforms and school level student support structures that will ensure appropriate, timely interventions to keep all students on track to on-time graduation. This involves clear communication and timely technical assistance to school leaders. These support structures will also require district-supported, user-friendly, real-time data systems that will allow schools to implement early warning systems and tiered interventions for struggling students, together with comprehensive, whole school reform that ensures high quality, engaging instruction in every classroom, every day.

Following a public health approach, the Everyone Graduates Center advocates district creation of a three stage (primary, secondary, and tertiary) pyramid prevention model implemented at all schools serving middle and high school students. The base or foundation of this prevention model involves district and school level universal reforms aimed at providing quality instruction that promotes engaged learning and successful high school completion with graduates ready for college or career. This foundation often is provided by an externally developed whole school reform model although districts have also successfully implemented home grown whole school reform efforts. In addition, the foundation includes a whole school approach to encouraging regular attendance and other positive behaviors. These primary prevention strategies often succeed alone with two-thirds to three-quarters of students. At the secondary level of the prevention model are targeted efforts for smaller groups of students who need additional supports beyond school level reforms to address attendance, behavior, or academic struggles. The tertiary level of the prevention model involves intensive intervention efforts, often at the one-on-one level, involving social work and mental health specialists, for the five to ten percent of students who need more clinical types of supports. While this tiered intervention approach is similar to the Response to Intervention (RTI) model (Duffy 2007) and to Positive Behavioral Intervention and Supports (PBIS) models, the three stage pyramid prevention model emphasizes an integrated approach to academic and behavioral problems that is not generally seen in implementations of RTI or PBIS. Researchers and practitioners are only beginning to link these together systematically (Sandomierski, Kincaid, and Algozzine [n.d.]; Sugai 2007; Sugai and Horner 2007).

Foundation of the prevention model. The base or foundation of the prevention model pyramid involves ensuring that high quality instruction is happening in the classroom each day, and that school level structures are in place to promote positive behaviors (including high attendance) and a positive learning environment for students. This emphasis on school wide instructional excellence and coherence, as well as school wide positive behavior systems, is a crucial foundation for ensuring student success (and preventing

dropout outcomes). When more than half (and often more than three-quarters) of ninth graders enter high school with risk factors (low middle school attendance, significantly below grade level reading and math proficiency, prior course failure and/or retentions), these “overstressed” high schools have considerable difficulty in responding to such overwhelming needs (Herlihy and Quint 2006, 1). District office support in establishing such a primary foundation can often benefit from additional technical assistance from externally developed comprehensive school reform (CSR) models. In particular, district office assistance is often crucial to help school instructional leaders identify how to improve school climate and instructional practice, and which whole school reform strategies are strong enough to match the scale and scope of the problem. District leadership is also crucial in ensuring the professional development time is not wasted (as it frequently is), but rather productively used to help improve teacher practice.

Comprehensive whole school reform models at the middle and high school level share many key principles (e.g., personalization, creation of small learning communities, improvement of instructional practice through extensive professional development), but often differ considerably on the extent to which they provide specific curriculum and instructional support to teachers. (See Mac Iver, 2007, for a more detailed discussion.) Herlihy and Quint (2006) summarize specific practices from four different high school reform models (Talent Development, Career Academies, First Things First, and Project GRAD) that seek to help high-poverty schools improve student achievement and graduation rates, with varying rates of success thus far. The High School Reform toolkit (Legters, Smerdon, and Early 2009) provides a comprehensive summary of reform-based practices, including useful checklists for district leaders.

To create a personalized learning environment, these models advocate small learning communities (SLCs) that often involve interdisciplinary teacher teams who share responsibility for a group of students. These models also specifically address improvement of instructional content and practice and the need for coherence across the school (Newmann et al. 2001). In addition to high quality professional development for faculty, some of the models also provide curricula and lesson plans, including “catch-up” courses in reading and mathematics, to help ensure that teachers faced with overwhelming numbers of underprepared students do not have to spend additional time finding materials to create their own lessons. There is growing evidence that such reforms are associated with higher rates of attendance, course passing, and high school graduation (Balfanz, Herzog, and Mac Iver 2007; Kemple and Snipes 2000; Kemple, Herlihy, and Smith 2003; Kemple 2004; Quint et al. 2005; Snipes et al. 2006) although as Herlihy and Quint (2006) point out, there remains a long way to go to increase graduation rates for urban students.

Another important component of an integrated approach to dropout prevention is the institutionalization of transition support for students entering ninth grade (Neild 2009b). Some students have failed multiple courses in ninth grade before they even realize what a credit is and why they need it for graduation. Ninth graders, who are at the peak of adolescent turmoil, need explicit socialization into the expectations and requirements of high school. Districts need to ensure that structures such as summer bridge programs are implemented well and deliver effective support to students entering high school, resulting in higher rates of attendance and course passing.

The need to add an early warning system to the schoolwide foundation. Even when schools have a solid foundation of high quality instruction in every classroom every day and positive behavioral supports in place, some students will still need additional support. For this reason, it is essential for schools to add a data-based early warning system as a foundational practice to identify which students are particularly at risk of failing to arrive at high school graduation so that interventions at the secondary and tertiary levels of the drop-out prevention model discussed below can be effectively carried out (Jerald 2006; Kennelly and Monrad 2007; Pinkus 2008). Such an early warning system, like the tools now in place throughout Louisiana and in the Chicago and Boston public schools (National Governors Association 2008; Gewertz 2009a) includes data, such as prior attendance, test scores, course failures, and suspensions, that indicate students in need of intervention to keep them on track to high school graduation. Timely provision of data, data management tools, and technical assistance to ensure that schools can implement such an early warning and intervention system is a crucial role for the district office in helping to close the graduation gap.

Intervention at the secondary and tertiary levels. As in public health models, universal practices aimed at dropout prevention at the primary level will ideally be successful for the large majority of students; but secondary and tertiary levels of intervention are necessary to address the needs of students who are not successful with whole school practices alone. While districts can often point to numerous intervention strategies listed in their master plans and individual school improvement plans, districts must systematically and honestly assess whether the components are integrated in a way that is effective. Piecemeal approaches may resemble a pretty patchwork quilt but are rarely effective in ensuring that all students who are falling off track to graduation are identified and receive the interventions needed.

School leaders often need district guidance to understand how an integrated, tiered intervention model can impose order on the multitude of individual interventions they are juggling. The three-tiered model assumes that schools will seek to address problems first at the whole school level, moving to targeted interventions at the secondary level, and then to more intensive interventions at the tertiary level only when efforts at lower levels have not proved effective. Targeted small group intervention for attendance and behavior problems can provide solutions before these problems become intensive issues requiring more expensive interventions. Tertiary level interventions would generally require social services providers and a one-to-one ratio to address student needs. The prevention model provides a way to coordinate all types of interventions in an integrated way, replacing the patchwork of independent programs that may often allow students to fall through the cracks or even work at cross-purposes with each other in a fragmented, ineffective fashion.

School leaders will probably require assistance to design and implement intervention systems that begin by assessing the extent of the need and identifying which systemic and whole school steps need to be taken to prevent the majority of problems before they require intervention. They may also need district help to implement intervention systems that effectively address all issues, coordinating help from various sources so that these efforts result in students getting back on track to graduation. The barriers or logjams that need to be addressed at the secondary and tertiary levels are primarily related to

time for interventions to be implemented and human resources to implement them. Technical assistance from the district can help school leaders solve these problems. The district office also has a role to play in helping school leaders evaluate the effectiveness of their interventions and take appropriate action to shift gears in “standard operating procedures” when results indicate the need for further improvement.

The Everyone Graduates Center is currently involved in implementing this integrated prevention model in several schools throughout the country under the Diplomas Now project, a joint effort of the Talent Development Program at Johns Hopkins University, City Year, Communities in Schools, and the PepsiCo Foundation (Gewertz 2009b; Herzog et al. 2009). The key components of this early warning and tiered response system are: (1) provision of regularly updated warning indicator data, from routinely collected student data, on each student to interdisciplinary teacher teams, support staff, and administrators; (2) regular bi-weekly meetings of school personnel teams to discuss students with warning indicators, plan interventions, and follow up on implemented interventions, making changes as indicated; and (3) organization of a “second team of adults,” including public service corps members and volunteers as well as social services professionals, to assist in delivery of interventions for students showing warning indicators. Data from the pilot year of the program in a Philadelphia middle school indicated significant reductions in the number of students exhibiting off-track indicators in attendance, behavior, and course performance (Diplomas Now 2010). While it will be several more years until we can judge the model's success in producing more high school graduates prepared for college and career, the early evidence of its success in reducing the number of off-track students has been encouraging.

One of the key components of the Diplomas Now model is its attempt to address the need for additional human resources through lower-cost sources. Keeping all students on track to graduation will require additional resources, but how can we pay for them? The use of national service organizations like City Year is one way to provide additional resources while at the same time maintaining a systematic, integrated approach to increasing graduation rates. Schools often flounder when managing various bodies of volunteers. This integrated structure provides a way for schools to coordinate the efforts of volunteer workers.

While external providers have historically jumpstarted reform efforts, as they did in the comprehensive school reform (CSR) movement, ensuring that all schools take such a systematic approach to keeping students on track to graduation will ultimately require leadership at the district office level. As Supovitz (2006, 15) points out, “experiments in alternative formulations for districts have only served to reinforce the central role of districts in supporting sustainable school reform.” It is time that districts extend what they have learned about school improvement to systematically address the graduation gap issue.

## **Conclusions**

Increasing high school graduation rates is a systemic issue, not just a school level issue. The district office therefore has a key role to play in narrowing the graduation gap and ensuring that more students earn their high school diplomas well-equipped for college or career. This article has articulated a clear vision of a systematic,

integrated approach to addressing this issue for district leaders. The three-pronged ABC approach calls for district and school leaders to:

- Analyze data to identify and address early warning indicators of dropout as well as policies and practices related to student attendance, behavior, and course failure;
- Build consensus among school leaders and faculties on the need to implement research-based practices that will help prevent dropout outcomes through reducing absences, suspensions, and course failures, and providing recovery opportunities for students before they drop out;
- Create integrated whole school reforms and school level student support structures, including early warning systems, that will ensure appropriate, timely interventions to keep all students on track to on-time graduation.

This is a cyclical approach that requires regular collection and analysis of data to evaluate the effectiveness of what schools are doing and adjustments when the need for further improvements is indicated. Applying such a cycle of inquiry to addressing the graduation gap is a fundamental practice of a well-functioning school district learning community that begins with the end in mind.

## Endnotes

<sup>1</sup> For further information on these programs, see Dropout Prevention (What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education) <http://ies.ed.gov/ncee/wwc/reports/topic.aspx?tid=06>.

<sup>2</sup> This would generally involve purchase of a system from one of the growing number of vendors of early warning systems.

## References

Adelman, H., and L. Taylor. 2000. Moving prevention from the fringes into the fabric of school improvement. *Journal of Educational and Psychological Consultation* 11: 7-36.

Allensworth, E., and J. Easton. 2005. *The on-track indicator as a predictor of high school graduation*. Chicago, IL: Consortium on Chicago School Research.

Allensworth, E., and J. Easton. 2007. *What matters for staying on-track and graduating in Chicago public high schools*. Chicago, IL: Consortium on Chicago School Research.

Alliance for Excellent Education. 2007. *The high cost of high school dropouts: What the nation pays for inadequate high schools*. Washington, DC: Alliance for Excellent Education. <http://www.all4ed.org/files/archive/publications/HighCost.pdf>.

Alliance for Excellent Education. 2008. Every student counts: The case for graduation rate accountability. *Policy Brief*. [http://www.all4ed.org/files/ESA\\_GradRateAcct.pdf](http://www.all4ed.org/files/ESA_GradRateAcct.pdf).

Baker, M.L., J.N. Sigmon, and M.E. Nugent, M.E. 2001. *Truancy Reduction: Keeping Students in School*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Balfanz, R., R. Durham, and S. Plank. 2008. *Lost days: Patterns and levels of chronic absenteeism among Baltimore city public school students 1999-00 to 2005-06*. Research Report. Baltimore, MD: Johns

Hopkins University. [http://www.baltimore-berc.org/pdfs/Attendance\\_issue\\_brief\\_FINAL\\_JULY%202008.pdf](http://www.baltimore-berc.org/pdfs/Attendance_issue_brief_FINAL_JULY%202008.pdf).

Balfanz, R., J. Fox, J. Bridgeland, and M. McNaught. 2008. *Grad nation: A guidebook to help communities tackle the dropout crisis*. Washington, DC: America's Promise Alliance. [http://www.everyIgraduates.org/PDFs/GradNation\\_Guidebook\\_Final.pdf](http://www.everyIgraduates.org/PDFs/GradNation_Guidebook_Final.pdf).

Balfanz, R., and L. Herzog. 2005. Keeping middle grades students on track to graduation: Initial analysis and implications. Presentation given at the Second Regional Middle Grades Symposium, Philadelphia, Pennsylvania.

Balfanz, R., L. Herzog, and D.J. Mac Iver. 2007. Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist* 42 (4): 223-235.

Balfanz, R., N. Legters, T.C. West, and L.M. Weber. 2007. Are NCLB's measures, incentives and improvement strategies the right ones for the nation's low-performing high schools? *American Educational Research Journal* 44 (3): 559-593.

Center for Mental Health in Schools. 2008. *Transforming school improvement to develop a comprehensive system of learning supports: What district superintendents say they need to move forward*. Los Angeles, CA: Center for Mental Health in Schools.

Chang, H.N., and M. Romero. 2008. *Present, engaged, and accounted for: The critical importance of addressing chronic absence in the early grades*. New York: National Center for Children in Poverty.

Covey, S. R. 1989. *The seven habits of highly effective people: Restoring the character ethic*. New York: Simon & Schuster.

D'Amico, L., M. Harwell, M.K. Stein, and J. van den Heuvel. 2001. *Examining the implementation and effectiveness of a district-wide instructional improvement effort*. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, Washington.

Darling-Hammond, L., A.M. Hightower, J.L. Husbands, J.R. LaFors, and V.M. Young. 2002. *Building instructional quality: Inside-out, bottom-up, and top-down perspectives on San Diego's school reform*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, Louisiana.

Diplomas Now. 2010. Results. <http://www.diplomasnow.org/research>.

Duffy, H. 2007. *Meeting the needs of significantly struggling learners in high school: A look at approaches to tiered intervention*. Washington, DC: National High School Center.

Dynarski, M., and P. Gleason. 2002. How can we help? What we have learned from recent federal dropout prevention evaluations. *Journal of Education for Students Placed at Risk* 7: 43-69.

Elmore, R.F., and D. Burney. 1997. *School variation and systemic instructional improvement in Community School District #2, New York City*. Pittsburgh, PA: University of Pittsburgh, HPLC Project, Learning Research and Development Center.

Everyone Graduates Center. <http://www.everyIgraduates.org>.

- Gewertz, C. 2009a. 9th grade, by the numbers. *Education Week*, March 11. [http://www.edweek.org/login.html?source=http://www.edweek.org/ew/articles/2009/03/11/24tracking\\_ep.h28.html&destination=http://www.edweek.org/ew/articles/2009/03/11/24tracking\\_ep.h28.html&levelId=1000](http://www.edweek.org/login.html?source=http://www.edweek.org/ew/articles/2009/03/11/24tracking_ep.h28.html&destination=http://www.edweek.org/ew/articles/2009/03/11/24tracking_ep.h28.html&levelId=1000).
- Gewertz, C. 2009b. "Diplomas Now" offers potential dropouts lots of help. *Education Week*, December 16. [http://www.diplomasnow.org/docs/09.12.16-EdWeek\\_DNow\\_lowres.pdf](http://www.diplomasnow.org/docs/09.12.16-EdWeek_DNow_lowres.pdf).
- Gleason, P., and M. Dynarski. 2002. Do we know whom to serve? Issues in using risk factors to identify dropouts. *Journal of Education for Students Placed at Risk* 7: 25-41.
- Gregg, S. 1998. Schools for disruptive students: A questionable alternative? *AEL Policy Brief*. Charleston, WV: Appalachia Educational Laboratory. ERIC Document Reproduction Service No. ED 417 528.
- Guskey, T.R. 2002. Computerized gradebooks and the myth of objectivity. *Phi Delta Kappan* 83: 775-780.
- Hall, D. 2007. *Graduation matters: Improving accountability for high school graduation*. Washington, DC: The Education Trust. <http://www2.edtrust.org/NR/rdonlyres/5AEDABBC-79B7-47E5-9C66-7403BF76C3E2/0/GradMatters.pdf>.
- Herlihy, C., and J. Kemple. 2003. *Impacts of the Talent Development Middle Grades Model on achievement, attendance, and promotion: A third-party evaluation*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.
- Herlihy, C., and J. Quint. 2006. Emerging evidence on improving high school student achievement and graduation rates: The effects of four popular improvement programs. *Research Brief*. Washington, DC: National High School Center. [http://www.betterhighschools.org/docs/NHSC\\_EmergingEvidenceBrief\\_111606Final.pdf](http://www.betterhighschools.org/docs/NHSC_EmergingEvidenceBrief_111606Final.pdf)
- Herzog, L., J. Liljengren, A. Mulvihill, and R. Balfanz. 2009. All aboard: Students on track for graduation. *Middle Ground* 13: 8-10.
- Hightower, A. 2002. *San Diego's big boom: District bureaucracy supports culture of learning*. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington.
- Hightower, A., M. Knapp, J. Marsh, and M. McLaughlin. 2002. *School districts and instructional renewal*. New York: Teachers College Press.
- Hoyle, J. R., and V. Collier. 2006. Urban CEO superintendents' alternative strategies in reducing school dropouts. *Education and Urban Society* 39: 69-90.
- Jerald, C. 2006. *Identifying potential dropouts: Key lessons for building an early warning data system*. Washington, DC: Achieve, Inc. [http://www.achieve.org/files/FINAL-dropouts\\_0.pdf](http://www.achieve.org/files/FINAL-dropouts_0.pdf)
- Kemple, J. 2004. *Career academies: Impacts on labor market outcomes and educational attainment*. New York: MDRC.
- Kemple, J. and J. Snipes. 2000. *Career academies: Impacts on students' engagement and performance in high school*. New York: MDRC.
- Kemple, J. C. Herlihy, and T. Smith. 2003. *Making progress toward graduation: Evidence from the Talent Development High School Model*. New York: MDRC.
- Kennelly, L., and M. Monrad. 2007. *Approaches to dropout prevention: Heeding early warning signs with appropriate interventions*. Washington, DC: National High School Center at the American Institutes for Research.
- Legters, N., B. Smerdon, and K. Early. 2009. *High school reform implementation toolkit*. Washington, DC: The Urban Institute and Academy for Education Development. <http://www.highschooltoolkit.com>.
- Mac Iver, D.J., and R. Balfanz. 2000. The school district's role in helping high-poverty schools become high performing. In *Including at-risk students in standards-based reform*, ed. B. Gaddy, 35-69. Aurora, CO: Mid-continent Research for Education and Learning [McREL].
- Mac Iver, M.A. 2009. Improving educational opportunities: A randomized evaluation study of a high school dropout prevention program. Paper presented at the meeting of the American Educational Research Association, San Diego, California.
- Mac Iver, M.A. 2007. What reform left behind: A decade of change at one urban high school. *Education and Urban Society* 40: 3-35.
- Mac Iver, M.A., R. Balfanz, and V. Byrnes. 2009. *Advancing the 'Colorado Graduates' agenda: Understanding the dropout problem and mobilizing to meet the graduation challenge*. Denver, CO: Colorado Children's Campaign.
- Mac Iver, M.A., and E. Farley-Ripple. 2009. Data-driven decision making requires more than just achievement data: Measuring and analyzing the factors that influence achievement. Presentation at the American Association of School Administrators National Conference on Education, San Francisco, California. <http://www.every1graduates.org/PDFs/MacIverAASA2009presentation.pdf>.
- Mac Iver, M., and D.J. Mac Iver. 2006. Which bets paid off? Early findings on the impact of private management and K-8 conversion reforms on the achievement of Philadelphia students. *Review of Policy Research* 23 (5): 1077-1093.
- Mac Iver, M., and M. Messel. 2011. Identifying the early warning signals of dropout outcomes in the Baltimore City Public Schools. Presentation accepted for the 2011 Annual Meeting of the American Educational Research Association, New Orleans, Louisiana.
- McNeil, L.M., E. Coppola, J. Radigan, and J. Vasquez Heilig. 2008. Avoidable losses: High-stakes accountability and the dropout crisis. *Education Policy Analysis Archives* 16 (3). <http://epaa.asu.edu/epaal/v16n3>.
- Montecel, M.R., J.D. Cortez, and A. Cortez. 2004. Dropout-prevention programs: Right intent, wrong focus, and some suggestions on where to go from here. *Education and Urban Society* 36: 169-188.
- National Association of Secondary School Principals [NASSP]. 2009. *Breaking ranks: A field guide for leading change*. Reston, VA: National Association of Secondary School Principals.

- National Governors Association. 2008. *Implementing Graduation Counts: State progress to date, 2008*. Washington, DC: National Governors Association. <http://www.nga.org/Files/pdf/0807GRADCOUNTS.PDF>.
- Neild, R.C. 2009a. Newsflash: Does Philadelphia really lead all big cities in improving the graduation rate? *Philadelphia Public School notebook*. <http://thenotebook.org/may-2009/091268/philadelphia-leading-big-city-improved-graduation-rates>.
- Neild, R.C. 2009b. Falling off track during the transition to high school: What we know and what can be done. *The Future of Children* 19: 53-76.
- Neild, R. C., and R. Balfanz. 2006a. An extreme degree of difficulty: The educational demographics of urban neighborhood high schools. *Journal of Education for Students Placed at Risk* 11: 131-141.
- Neild, R. C. and R. Balfanz. 2006b. *Unfulfilled promise: The dimensions and characteristics of Philadelphia's dropout crisis, 2000-2005*. Philadelphia, PA: Philadelphia Youth Transitions Collaborative.
- Neild, R.C., S. Stoner-Eby, and F.F. Furstenberg. 2008. Connecting entrance and departure: The transition to ninth grade and high school dropout. *Education and Urban Society* 40: 543-569.
- Newmann, F. M., B. Smith, E. Allensworth, and A.S. Bryk. 2001. Instructional program coherence: What it is and why it should guide school improvement policy. *Educational Evaluation and Policy Analysis* 23 (4): 297-321.
- No Child Left Behind Act of 2001. Public Law 107-110.
- Pinkus, L. 2008. *Using early-warning data to improve graduation rates: Closing cracks in the educational system. Policy Brief*. Washington, DC: Alliance for Excellent Education.
- Positive Behavioral Intervention and Supports. OSEP Technical Assistance Center. Washington, DC: Office of Special Education Programs, U.S. Department of Education. <http://www.pbis.org>.
- Princiotta, D., and R. Reyna. 2009. *Achieving graduation for all: A governor's guide to dropout prevention and recovery*. Washington, DC: National Governors Association.
- Quint, J. H. Bloom, A.R. Black, L. Stephens, and T. Akey. 2005. *First Things First: The challenge of scaling up educational reform*. New York: MDRC.
- Roderick, M., and E. Camburn. 1999. Risk and recovery from course failure in the early years of high school. *American Educational Research Journal* 36: 303-344.
- Sandomierski, T., D. Kincaid, and B. Algozzine. n.d. Response to intervention and positive behavior support: Brothers from different mothers or sisters from different misters. *National Center on Response to Intervention Brief*. [http://www.rti4success.org/images/stories/pdfs/rti\\_and\\_positive\\_behavior\\_support.pdf](http://www.rti4success.org/images/stories/pdfs/rti_and_positive_behavior_support.pdf).
- Snipes, J., F. Doolittle, and C. Herlihy. 2002. *Foundations for success: Case studies of how urban school systems improve student achievement*. Washington, DC: Council of Great City Schools.
- Snipes, J., G.I. Holton, F. Doolittle, and L. Szejnberg. 2006. *Striving for student success: The effect of Project GRAD on high school student outcomes in three urban school districts*. New York: MDRC.
- Sugai, G. 2007. RTI: Reasons, practices, systems, and considerations. A presentation to the Response to Intervention Summit. [http://www.rti4success.org/index.php?option=com\\_content&task=view&id=692&Itemid=79](http://www.rti4success.org/index.php?option=com_content&task=view&id=692&Itemid=79).
- Sugai, G., and R. Horner. 2007. SW-PBS and RTI: Lessons being learned. A presentation to the Response to Intervention Summit. [http://www.apbs.org/Archives/Conferences/fourthconference/Files/Sugai\\_F1.pdf](http://www.apbs.org/Archives/Conferences/fourthconference/Files/Sugai_F1.pdf).
- Supovitz, J. 2006. *The case for district-based reform: Leading, building, and sustaining school improvement*. Cambridge, MA: Harvard Education Press.
- Supovitz, J. 2008. *Building system capacity for improving high school graduation rates in California*. California Dropout Research Project Report #9. Santa Barbara, CA: California Dropout Research Project.
- Swanson, C. 2009. *Cities in crisis: Closing the graduation gap*. Bethesda, MD: Editorial Projects in Education Research Center.
- Texas Education Agency. 2009. *Senate Bill (SB) 2033 School District Grading Policy*. <http://ritter.tea.state.tx.us/taal/comm101609.html>.
- Togneri, W., and S.E. Anderson. 2003. *Beyond islands of excellence: What districts can do to improve instruction and achievement in all schools*. Washington, DC: Learning First Alliance.
- U.S. Department of Education. 2008a. *U.S. Secretary of Education Margaret Spellings announces proposed regulations to strengthen No Child Left Behind*. Washington, DC: U.S. Department of Education. <http://www.ed.gov/news/pressreleases/2008/04/04222008.html>.
- U.S. Department of Education, Institute of Education Sciences. 2008b. *Dropout Prevention*. What Works Clearinghouse. [http://ies.ed.gov/ncee/wwc/pdf/practiceguides/dp\\_pg\\_090308.pdf](http://ies.ed.gov/ncee/wwc/pdf/practiceguides/dp_pg_090308.pdf).

# Native American Educational Leader Preparation: The Design and Delivery of an Online Interdisciplinary Licensure Program

Linda R. Vogel and  
Harvey Rude

“Decision making should always benefit the students, no matter the color.”<sup>1</sup>

In a 1991 report, the Indian Nations at Risk Task Force documented a lack of Native educators as role models for Native American students and set a goal of doubling their number by the year 2000. Under-representation of Native American educators remains an issue today particularly with regard to school leaders (Planty et al. 2009; Snyder and Dillow 2010). In order to increase the number of Native American educational leaders serving Bureau of Indian Education (BIE) schools,<sup>2,3</sup> and other schools with high concentrations of Native American students,<sup>4</sup> the Educational Leadership and Policy Studies program and School of Special Education at the University of Northern Colorado developed a two-year online multi-disciplinary Master's of Arts degree program for Native American teachers to obtain both principal and special education administrative licenses.<sup>5</sup> This article describes the context, design, and evaluation of this new degree program. In addition, drawing upon the experiences of program staff, faculty members, and participants (students), it presents the challenges and lessons learned in the areas of recruitment and retention; program structure and online delivery; and cultural accommodation and enhancement.

## Context

The knowledge base of school administrative practices necessary for the effective design and delivery of instruction for Native American students is threefold. First is a multicultural perspective that not only acknowledges Native American student cultural knowledge as worthwhile, but also one that reinforces and expands cultural knowledge (Hale 2002). Central to this perspective is the promotion of an appreciation and respect for one's own culture as well

as that of others. Second is an understanding that Native American students process information in a manner that may not be compatible with the traditional sequential and analytical learning model used by many schools and curriculum providers (Cazden 1982; Dumont 1972; Erickson and Mohatt 1982; Philips 1983). Rather, a global and relational instructional style more effectively engages Native American students through offering a variety of choices in individual learning using examples from contemporary Native American life and applying ideas and skills to those situations. Third, Native American cultural norms related to cooperation over competition and the public display of one's own knowledge must inform the development of instructional environments to encourage Native American student learning without creating a schism between family and community behavioral expectations and successful interaction and school expectations and interactions (Hale 2002). This three-part knowledge base directly impacts the guidance of instruction as well as the evaluation of teaching by administrators in schools with high concentrations of Native American students.

The need for leaders who are knowledgeable of special education student assessment and instruction is also vital in these schools because Native American students are more likely than white, Hispanic, and Asian/Pacific Islander students to be served by the Individuals with Disabilities Education Act (Freeman and Fox 2005, 28), and the need is growing. Between 1998 and 2003, the percentage of Native American students identified in need of special education services rose faster than that of any other racial or ethnic minority group, from 9.5% to 11.9% (Freeman and Fox 2005, 34).

For BIE schools, the incidence of Native American students with disabilities is even higher. The Office of Indian Education Programs reported over 18% special needs student in attendance in 2002-2003 (Bureau of Indian Education 2004) in contrast to 9% of all public education students (Freeman and Fox 2005, 34). According to Tippeconnic and Faircloth (2002, 2-3), American Indian and Alaska Native children accounted for a 30% higher than expected representation in special education programs and services, with over-representation in most disability categories, such as specific learning disabilities, speech or language impairments, mental retardation, emotional disturbance, deaf-blindness, and traumatic brain injury.

In the 2003-2004 school year, 117 of the 182 BIE schools failed to meet Adequate Yearly Progress (AYP) requirements under the federal No Child Left Behind Act of 2001 guidelines (Bureau of Indian Education 2004). Seventy-nine percent of these schools failed to demonstrate AYP for their special education student population subgroup, with the same trend reported in 2004-2005 (Bureau of Indian Education 2004, 2005b). In 2004-2005, 62 BIE schools fell into the “Alert” category indicating low performance while 17 were classified as “Level I School Improvement” and five were classified as “Level II School Improvement” (Bureau of Indian Education 2005a). Level I School Improvement classification requires state support to increase student achievement while Level II requires supplemental educational services to students from low-income families. Twenty-one BIE schools were classified as requiring corrective action which can include replacement of school staff and internal school reorganization. Further, 16 BIA schools were classified as requiring restructuring by reopening as a charter school; replacement of the principal and staff; state takeover; and/or contractual management by a private company.

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Given the high percentage of Native American students with special needs, coupled with low academic performance on state and federally mandated assessments, leaders of BIA schools must be knowledgeable about effective instruction for students with disabilities. Particularly important is the use of authentic or performance-based assessments; involvement of parents and families in the assessment process; and awareness of and responsiveness to students' cultural and linguistic differences (Tippeconnic and Faircloth 2002, 2).

### **Program Design**

Three unique features of this program were the multidisciplinary nature of the course of study; online delivery of courses; and curricular focus on issues pertinent to leadership of schools with high concentrations of Native American students. Course content and discussions emphasized developing relationships between school and community as well as among participants and instructors; and evaluating and responding to leadership situations based on situational, relational, and cultural considerations. Organizational change and leadership development focused on giving voice to individuals and groups who either have been silenced or have not been invited to participate in educational conversations. Native American teacher, parent, community member, and student voices were specifically discussed in readings and assignments throughout the program.

Although the Department of Educational Leadership and Policy Master's degree with principal licensure is a 30 credit hour program, this newly developed course of study was expanded to 39 credit hours to encompass the special education administrator license. Courses included:

- (1) Self-examination of leadership style, beliefs, and visions (3 credit hours);
- (2) Organizational change strategies (6 credit hours);
- (3) Effective hiring, mentoring, supervision, and professional development (6 credit hours);
- (4) Legal and fiscal issues (6 credit hours);
- (5) Planning and evaluation of special education services (9 credit hours);
- (6) Understanding and applying educational research (3 credit hours).

In addition, students completed two applied internship experiences, totaling 6 credit hours, supervised by experienced school principals and special education administrators. The curriculum and assignments were designed specifically for program participants, emphasizing knowledge and skills that would be needed to effectively serve Native American students, parents, and communities (Bensen 2001; Cajete 2000; Cazden 1982; Cleary and Peacock 1998; Demmert 2001; Dumont 1972; Erickson and Mohatt 1982; Hale 2002; Howard 2006; Swisher and Tippeconnic 1999).

Online delivery of the program facilitated participation of Native American educators serving remote geographic areas in states where they could not easily access traditional on-campus or regional leadership programs (Hale 2002; McGee and Cody 1995; Solomon 1997; Sorensen 1992). Native American educators were eligible to participate in this program if they: (1) had at least two years of teaching experience and thus would be eligible for state licensure as a school administrator at the end of the program; (2) were affiliated with either a recognized or unrecognized Native American tribe; (3) met the Graduate School grade point average (GPA) requirement of 3.0;

and (4) demonstrated through two letters of recommendation and a personal essay a commitment to leading Native American schools. Participant cost of tuition, books, transportation, and room and board (for a summer on-campus orientation meeting) were covered by grant funds. In return, participants agreed in writing to pay back the costs of the program by serving as an administrator in a school with a predominantly Native American student population for three years. If they were unable or unwilling to do so, they agreed to pay back the costs of the program to the funding agency. Students who did not complete the program were also responsible for paying back costs that had been incurred while enrolled.

### **Program Evaluation**

The program evaluation was guided by two research questions: (1) In what ways did this educational leadership program meet the unique needs and goals of tribal communities; and (2) How could the program be improved in content, structure, and delivery? Students in the two cohorts completed course evaluations and provided feedback to strengthen the overall program.<sup>6</sup> At the end of the program, formal feedback from instructors was also sought. Informal feedback from students and instructors was gathered via email and conversation documentation throughout the project. These three sources of data were used to evaluate the strengths and weaknesses of the project.

Anonymous course evaluations were administered at the end of each semester by project staff. Each course in the program received overwhelmingly positive feedback from participants. Readings, assignments, course materials, and instructor feedback and communication received consistent ratings of "very useful."<sup>7</sup> The technology used in the program delivery also received the highest rating of "very useful" despite the frustration of a few students who encountered problems with internet access at their school or home. Online discussion forums were rated as "very useful" by 82% of students with the remaining 18% rating the forums as "somewhat useful." Online chat room conversations were less successful, receiving student ratings of "somewhat useful" or "did not use," and so were dropped after the second semester of the program.

Course evaluations also included a section for student comments. Overall, students found coursework valuable in their development as school leaders. For example, students indicated they valued learning leadership theories and skills as well as engaging in practical applications, such as in-basket exercises and simulated conferences. As a result, students commented that they felt more prepared to discern and respond to the larger issues that influence a leader's actions. One participant observed:

I realized that there are all different types of leaders. Native American schools need strong leaders with open minds who have a mission to help students become life-long learners (Student response 01C23).

Another student stated that the program "gave me an understanding of how I want to be when I become an administrator" (Student response 03C29).

According to other student comments, legal and human resources issues addressed in coursework helped participants to deal with "close relatives and real situations" (Student response 04C25) and "politics of the community and the school board" (Student response 04C211). Written assignments, reflections, and discussion forums provided students with the opportunity to crystallize their values and beliefs regarding education and leadership. One student noted

that the most useful aspect of the program was “to put into words my own thoughts about my role in education” (Student response 01C22).

Students also appreciated discussions as a means to help them understand a variety of perspectives on the topics presented as well as a means to facilitate conversations with peers. One participant commented:

I learned that many problems present in school organizations today can be viewed from different aspects. Depending on the view one takes, different solutions will be presented. Additionally, depending on the view that is taken by others that are involved in the problem, multiple strategies come into play. In order to be an effective leader, that leader needs to be aware of differing views and the motivations behind them (Student response 03C27).

This view was echoed by participants throughout their program. Feedback from students also included the option of digital recordings to fully embrace the Native American oral tradition.

Instructor availability and support received strong positive ratings from both cohorts. In rating overall satisfaction with the program, all participants reported themselves as “very satisfied” with the learning they had experienced.<sup>8</sup> Even in courses where students suggested additional Native American research readings, every student in the program identified relevant aspects that they felt directly applied to their current position and future leadership position in Native American schools and communities. Many times, participants identified new knowledge on how to fairly resolve situations involving multiple stakeholders and legal issues as giving them “confidence in making the right decisions” (Student response 04C24).

Student suggestions for program improvement included the need for stricter enforcement of assignment deadlines and the development of strategies to address issues with peers who did not contribute to discussions or assignment postings in a timely manner. Although the materials used in most courses were rated as applicable and appropriate to Native American school leadership, materials related to statistical research and finance were initially noted as needing more culturally relevant materials, an issue that was addressed with the second cohort. Research on Native American student learning and achievement were the most requested additions to courses. Students also noted that during semesters with three courses the workload related to readings, assignments, and discussion involvement was burdensome for working professionals, presenting to them a challenge to obtain the highest quality learning experience from course content.

Early in the program, participants were exposed to definitions of four epistemologies—logical positivism, hermeneutics, critical theory, feminism—and asked to examine their own way of knowing and making sense of the world. An analysis of participant epistemologies, based on an educational leadership platform and epistemology assignment responses, revealed that 50% of the program participants identified with a hermeneutics perspective, and 40% identified with critical theory epistemology. One student summarized her hermeneutic view of educational leadership as follows:

Knowing where people are coming from and why they view things as they do is an important piece in understanding human dynamics and building relationships. The culture’s whole way of discovering truth and knowledge is that you’re doing so because of a sense of being “incomplete” and, through

your quest, you’re subject to uncertainty, change, and growth. You exist in a wide open universe, awaiting your own personal enlightenment—yours and yours alone (Student response RNE).

Knowledge for change was also a dominant critical theory theme among participants and was cited by 87% of respondents as the reason for becoming an educator and seeking a leadership position. “I have a real conviction that education, along with renewed spirituality, is the Native American’s salvation,” one cohort member shared, identifying the interconnectedness of the power of the mind and spirit (Student response DNE).

In a separate analysis of course delivery and assignments, it was found that participants earned higher grades in courses where instructors focused on relationship building and responding to situational contexts than in courses where assignments were more removed from situations participants had experienced or asked for clear-cut applications of laws or principles. Students were also more successful in courses with instructors who utilized a combination of hermeneutic and critical theory approaches, such as understanding and valuing each student’s unique life experiences, actively building relationships with students, and supporting students’ aspirations and plans to enact changes in their current and future school contexts.

### **Recruitment and Retention Challenges and Lessons**

The grantor’s requirement that classes begin less than five months after notification of funding was received proved challenging, particularly for the first cohort, and necessitated moving the starting date of their first class from January to March 2006, impacting participation positively for some potential students and negatively for others. Recruitment efforts began immediately after notification through the development of a program website and distribution of program information to schools through program site coordinators. Early in the semester in which classes were to begin, an informational meeting was held for interested Native American teachers in northern New Mexico in what is referred to as the “Four Corners” region. However, university processing of applications was slower than usual because the program was new and involved simultaneous enrollment in the educational leadership and special education licensure programs under the umbrella of a single Master’s degree.

Although the project staff estimated an enrollment of 15 students in the first cohort, the short timeline resulted in a slightly smaller group of 13 students. With attrition, the first cohort lost seven students. One student withdrew within the first six months after becoming terminally ill. A second withdrew during the first term after deciding that a planned vacation would jeopardize completion of the first course and program. Three students experienced life changing events immediately after the first course and requested joining the second cohort. Reasons included taking a teaching position in another state, recertification challenges, cancer, and divorce. In addition, two students were dropped midway through the program because their grade point average (GPA) fell below the Graduate School minimum requirement of 3.0 for more than one semester. The remaining six participants successfully completed the program and graduated in May, 2008.

In the spring semester of 2007, twenty-six students, including the three who transferred from the first cohort, were admitted to the second cohort. The deadline for application to begin the second cohort in June 2007 was established for mid-November 2006 in

order to allow time for applications to be processed by the Graduate School. Although 15 additional applications that met the program participation requirements were received, grant funding limited the cohort to 27 students. As a result, qualified applicants were accepted in the order in which their applications were received. With attrition, the second cohort lost eight students. After briefly attending the first class, one of the transfers from the first cohort stopped participating, did not respond to program or faculty communication, and was subsequently dropped from the program. A second student withdrew after losing his job through a reduction in force while at the same time going through a divorce. The prospect of relocation and starting a new job caused this student to withdraw. Four semesters into the program, six students were dropped because their GPAs fell below the Graduate School minimum. This left 18 students in the second cohort all of whom graduated May, 2009.

Lessons learned from the recruitment experiences of the first two cohorts included the following:

1. If possible, the deadline for application should be at least six months prior to the beginning of classes so that paperwork can be processed and applicants can adequately plan for and commit to participation in coursework.
2. A statement of professional goals to complement the educational platform may help students focus on program outcomes and increase participant retention.
3. Student support structures should be built into the program to assist students struggling with coursework. Although regional tutoring sessions were held for both cohorts, this was not a specified element of the original program design. Several students who were dropped from the program were unable to attend these sessions because of family and job demands.

### **Program Structure and Online Delivery Challenges and Lessons**

The online delivery of the program presented several challenges: (1) Lack of personal bonding opportunities for students with only a few cohort members; (2) unfamiliarity with the technology used in course delivery; and (3) unreliable access to technology.

Although a few of the participants in the first cohort were able attend the informational orientation session, several could not because of the geographic distance.<sup>9</sup> A weekend session was subsequently scheduled in the third semester of the six-semester program to allow all first-cohort members to meet and faculty to get to know students better. For the second cohort, all members were brought to campus to attend a week-long orientation to the first three courses of the program and the technology that would be used. Also, members of the first cohort were invited to share their experiences with the second cohort and to work with faculty teaching the courses in which they were currently enrolled. These activities were positively received by participants and very successful from the standpoint of the program faculty. If funding had permitted, these types of activities would have been scheduled again mid-way through the second cohort's program.

Members of the second cohort found it helpful to begin their program in the summer when they could concentrate more on the coursework. This, however, was not possible for the first cohort because of funding agency requirements. The scheduling of courses for the first cohort was also impacted by the necessity to begin

classes in the spring semester. The course schedule proposed to have participants enroll in one course in the fall and spring semesters while their schools were in session and then enroll in three courses each of the two summers in the program. In order to have the first cohort complete all licensure and degree requirements by the end of second spring semester, participants were enrolled in three courses in the fall semester preceding their graduation. This meant that while they were working at their school sites to complete experiences for their internships, they were also completing the required statistics and school finance courses. Several students found this to be a challenging workload. Although reading requirements were reduced because of the compressed time period of the first course in which they were enrolled, participants still experienced stress in covering course content and assignments in addition to mastering statistical software (SPSS) used in the statistics course

Because of the quick start-up time for the first cohort, the only technological training that was provided was at the informational orientation session which few were able to attend. A technology hotline created for the first cohort was used only a few times by one student. The need for technology training was better addressed with the second cohort by providing an hour of hands-on technology instruction each day they spent on campus. An educational technology graduate student facilitated the training sessions and, because of the personal relationship established through face-to-face meetings, phone conversations, and emails, this individual was utilized a great deal by both faculty and participants throughout the program.

Centra Software (2005) software to facilitate visual images and real-time interaction between students and instructors was originally proposed for use in the program. However, it became clear very quickly that this software was more suited to real-time instruction. Because the participants in the program were all full-time teachers with extracurricular commitments, whole-group sessions were impossible to schedule, and the use of the software was discontinued. The Blackboard platform used to deliver the online classes was one with which a majority of participants and instructors felt comfortable, allowing participation at the students' convenience. This flexibility also enabled participation by students who had less reliable access to the internet, for example, in remote locations where service could be interrupted due to the high winds.

All of the special education courses included in the program had been taught online prior to this project, but none of the educational leadership classes had been adapted for online delivery. This required some faculty members to expand their comfort level with and knowledge of technology for instructional delivery purposes. Although support was available to assist with the adaptation and delivery of course content and activities, not all instructors took advantage of it. Some faculty, however, embraced the online learning experience, with one creating weekly YouTube postings in addition to Blackboard discussion forums. According to course evaluation feedback, these postings were much appreciated by students because they could review explanations of assignments and major concepts.

The lessons learned regarding program structure and online delivery included the following:

1. Provide time for students and instructors to interact and build relationships not only at the beginning of the program, but also midway to sustain student commitment and allow new faculty to get to know students.

2. Identify a hybrid program structure that supports face-to-face contacts with program participants at the beginning of each online course.
3. Provide two to three opportunities each semester for instructors and participants to meet face-to-face to engage in class activities that are not easily reproducible in an online learning environment and to build relationships among the group and with instructors.
4. Provide an opportunity for past program participants to meet, share, and mentor newly admitted participants.
5. Begin classes in the summer when participants have a lighter workload so that they can concentrate on program coursework.
6. If it is not possible to begin coursework in the summer, structure the first course to provide a nonthreatening, well-paced initiation to the course of study.
7. Schedule potentially difficult courses, such as law, finance, and statistics, during different semesters so that students do not feel overwhelmed by the workload.
8. Provide technology training to all participants in a hands-on setting so they can practice while a person is available to answer questions and explain navigating the platform being used.
9. Use software that allows for asynchronous instruction and student participation.
10. Structure assignments with flexibility to accommodate student internet service interruptions.
11. Provide group instruction to instructors on the adaptation and delivery of online learning experiences using selected technological platform(s) like webcams, digital recordings, and YouTube postings that maximize personal and oral interaction among participants and with the course instructor.
12. Provide readily available technological support for instructors and participants throughout the program via an individual with whom participants have an established relationship.

### **Cultural Accommodation and Enhancement Challenges and Lessons**

Perhaps the most challenging aspect of the project was ensuring that culturally relevant issues in leading Native American schools were included in the program curriculum. Only two instructors in the program had significant experience in working with Native American educators although site coordinators, the program evaluator, and advisory board members either were Native American or had substantial experience with Native American schools. Feedback from them related to adding relevant readings and enhancing assignments was invaluable.

The degree to which instructors included accommodations and enhancements in their respective courses varied based on their knowledge of available resources, personal background, time constraints, and cultural understandings. For example, some instructors made no modifications to readings, discussion topics, or written assignments because of a lack of time to prepare or find materials relevant to Native American educators coupled with the belief that general understanding of theory was the purpose of the courses they were teaching. On the other hand, another instructor greatly modified readings and discussion topics in the first course in which

each cohort was enrolled as a result of gaining a greater knowledge of resources available. To assist instructors, educational materials that emphasized Native American culture and learning philosophy, e.g., books, videos, research reports, and practitioner-oriented articles, were collected by the project director for instructor use as the project proceeded.

In response to the heavy course loads of participants over the summer when students were enrolled in three courses and when the statistics course ran concurrently with either the school finance or law courses, several instructors reduced the number of reading or reflective essay assignments in courses. The core structure of the key assignments and learning objectives in all classes, however, remained the same.

Instructors found that discussions and assignments were more successful when based on students' experiences. Numerous self-reflection activities were included throughout the curriculum. These were based on traditional leadership theory with articles on aspects of Native American education and culture added in order to integrate participants' experiences. Requesting students to apply or analyze concepts in light of their own experience as educators brought forth high-quality, in-depth, thoughtful responses. For example, assignments in the initial course of the program included examination of Native American culture regarding educational beliefs, role of the community, and epistemology. In many instances, capitalizing upon students' experiences also provided a bridge between the instructors' knowledge of public education and BIE policies.

Instructors found that links to videos, PowerPoint presentations, and external resources were well received by students. Interactive activities that were standard elements of on-campus courses were completed during the summer meeting with participants. Activities in courses not offered at that time were either modified or dropped. Although instructors in the latter portion of each cohort's program found that the consistency of using the Blackboard platform created a high level of comfort for both instructors and students with regard to online course participation, instructors who taught earlier in the program initially accepted emails from students as a substitute for those who were unable to attend the program orientation.

According to instructors in the program, 30% to 50% of participants performed at or above the level of on-campus students, and they suggested that two to three face-to-face meeting opportunities would have enhanced participants' learning experiences and the quality of discussions. Several noted that bilingual students engaged more frequently in discussion, asked more questions, and produced higher quality written products than those with more limited English proficiency. For students who struggled with program requirements, instructors found it difficult to engage them in a productive dialogue to answer their questions or address the challenges they faced unless the instructors were extremely persistent and consistent in their communication. The issue of submitting assignments in a timely manner was also a concern. Although some instructors maintained strict due dates with grade deductions for late work, the majority of instructors accepted work up to the point at which grades were required to be submitted and evaluated the quality of work without regard to time of submission. However, late submission of work led several instructors to voice concerns over participants' ability to handle multiple situations in an efficient manner as required of educational leaders.

Lessons learned in the area of cultural accommodation and enhancements included:

1. Provide cultural resources for instructors, make sure they are aware of what is available, and how these can be used in course delivery.
2. Provide an orientation for all instructors that persuasively depicts the increased quality of learning experiences for participants when cultural issues are woven into the content of each course.
3. Make instructors aware of students' workload in other courses offered concurrently and provide a forum for instructors to discuss student workloads and share successful teaching techniques, including effective methods of communicating with students and structuring of assignment deadlines.
4. Provide two to three opportunities each semester for instructors and participants to meet face-to-face to engage in class activities that are not easily reproducible in an online learning environment and to build relationships.
5. Encourage instructors to provide alternative means for submitting discussion contributions and assignments, such as digital recordings or webcam tapes, when the quality of writing is not fundamentally relevant to the learning being shared or assessed.

## Conclusion

While the online delivery of this innovative Native American Education Leadership program encountered challenges, the satisfaction of participants with the quality of instruction and level of learning was consistently high. In terms of concrete results, the principal and special education director licensure of 24 Native American leaders through this program enlarged the capacity for Native American leaders to serve schools and communities with high concentrations of Native American students. These leaders are role models who possess the knowledge and skills to build culturally appropriate curriculum and pedagogies for students; support teachers to better understand and serve Native American students; and reach out to Native American parents and community members to support student engagement and achievement. However, many more qualified Native American educational leaders are needed, and we hope the experience of this program offers insights to others who seek to broaden access to similar opportunities. If self-determination is based on knowledge and the motivation to make a difference, such educational leadership programs and the leaders that they prepare can greatly contribute to the empowerment of Native American tribal communities.

## Endnotes

<sup>1</sup> Program participant (student) observation.

<sup>2</sup> The Bureau of Indian Education is a federal agency whose mission is "...to provide quality education opportunities from early childhood through life in accordance with a tribe's needs for cultural and economic well-being, in keeping with the wide diversity of Indian tribes and Alaska Native villages as distinct cultural and governmental entities. Further, the BIE is to manifest consideration of the whole person by taking into account the spiritual, mental, physical, and cultural aspects of the individual within his or her family and tribal or village context" (<http://www.bie.edu>). According to its web site:

"The Bureau of Indian Education oversees a total of 183 elementary, secondary, residential and peripheral dormitories across 23 states. 124 schools are tribally controlled under P.L. 93-638 Indian Self Determination Contracts or P.L. 100-297 Tribally Controlled Grant Schools Act. 59 schools are operated by the Bureau of Indian Education" (<http://www.bie.edu/Schools/index.htm>).

<sup>3</sup> In 2002, seven percent of the Native American student population attended BIA schools (Freeman and Fox 2005, 28).

<sup>4</sup> In 2002, approximately one-third (31%) of Native American students attended schools where they were they comprised at least 50% of the student body (Freeman and Fox 2005, 28).

<sup>5</sup> Funding support for this project was provided through a professional development grant from the United States Department of Education, Office of Indian Education (OIE), grant number B299B050024. The Native American Innovative Leadership (NAIL) project performance period was from July 1, 2005 through June 30, 2009.

<sup>6</sup> The first cohort consisted of 10 participants and the second cohort included 20 students. The first cohort consisted of 8 females and 2 males while the second cohort contained 18 females and 2 males. Tribal representation was 75% Navajo, with the remaining 25% of participants from the following tribes: Arapaho; Chemehuevi; Crow; Northern Arapaho; Ogalala Sioux; Old Harbor; Pawnee; Ponca; and Three Affiliated tribes.

<sup>7</sup> Items on the course evaluation used a Likert (five point) scale ranging from "did not use" to "very useful".

<sup>8</sup> Responses were based upon a Likert (five point) scale ranging from "not satisfied" to "very satisfied".

<sup>9</sup> Participants in the program who resided in Alaska, California, Wyoming, Montana, and Michigan were not able to travel to the New Mexico orientation meeting.

## References

- Bensen, R., ed. 2001. *Children of the dragonfly: Native American voices on child custody and education*. Tucson, AZ: University of Arizona Press.
- Bureau of Indian Education. Washington, DC: U.S. Department of the Interior. <http://www.bie.edu/index.htm>.
- Bureau of Indian Education. Schools. Washington, DC: U.S. Department of the Interior. <http://www.bie.edu/Schools/index.htm>.
- Bureau of Indian Education. 2004. *2003-2004 Report Card*. Washington, DC: U.S. Department of the Interior.
- Bureau of Indian Education. 2005a. *2004-2005 Report Card*. Washington, DC: U.S. Department of the Interior.
- Bureau of Indian Education. 2005b. *2004-2005 Special Education Report Card*. Washington, DC: U.S. Department of the Interior.
- Cajete, G. 2000. *Native science: Natural laws of interdependence*. Santa Fe, NM: Clear Light Publishers.
- Cazden, C.B. 1982. Four Comments. In *Children in and out of School*, ed. P. Gilmore and A. Glatthorn, 209-226. Washington, DC: Center for Applied Linguistics.

- Centra Software, Inc. 2005. *Symposium ASP and Blackboard adapter subscription*. Lexington, MA.
- Cleary, L.M., and T.D. Peacock. 1998. *Collected wisdom: American Indian education*. Boston, MA: Allyn and Bacon.
- Demmert, W.G. 2001. *Improving academic performance among Native American students*. Charleston, WV: AEL.
- Dumont, R.V. 1972. Learning English and how to be silent: Studies in Sioux and Cherokee classrooms. In *Function of language in the classroom*, ed. C. Casden, V. John, and D. Hymes, 344-369. New York: Teachers College Press.
- Erickson, F., and G. Mohatt. 1982. Cultural organization of participation in structures in two classrooms of Indian students. In *Doing the ethnography of schooling*, ed. G. Spindler, 132-175. New York: Holt, Rhinehart, and Winston.
- Freeman, C., and M. Fox. 2005. *Status and Trends in the Education of American Indians and Alaska Natives*. Washington, DC: National Center for Educational Statistics, U.S. Department of Education. <http://nces.ed.gov/pubs2005/2005108.pdf>.
- Hale, L. 2002. *Native American education: A reference handbook*. Denver, CO: ABC-CLIO, Inc.
- Howard, G. R. 2006. *We can't teach what we don't know: White teachers, multiracial schools*, 2nd ed. New York: Teachers College Press.
- Indian Nations at Risk Task Force. 1991. *Indian Nations at Risk: An Educational Strategy for Action*. Final Report. Washington, DC: United States Department of Education.
- Individuals with Disabilities Education Act (IDEA). Public Law 108-446.
- McGee, R., and H.H. Cody. 1995. Cultivating mentors. *Winds of Change* 10 (3): 32-4.
- No Child Left Behind Act of 2001. Public Law 107-110.
- Philips, S.U. 1983. *The invisible culture: Communication in classroom and communication on the Warm Springs Indian Reservation*. New York: Longman.
- Planty, M., W. Hussar, T. Snyder, G. Kena, A. Kewal Ramani, J. Kemp, K. Bianco, and R. Dinkes. (2009). *The Condition of Education 2009*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences. <http://nces.ed.gov/pubs2009/2009081.pdf>.
- Snyder, T.D., and S.A. Dillow. (2010). *Digest of Education Statistics 2009*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences. <http://nces.ed.gov/programs/digest/d09>.
- Solomon, R.P. 1997. Race, role modeling, and representation in teacher education and teaching. *Canadian Journal of Education* 22 (4): 395-410.
- Sorensen, C.G. 1992. Pattern for performance. *Winds of Change* 7 (2): 40-3.
- Swisher, K.C., and J.W. Tippeconnic III, ed. 1999. *Next steps: Research and practice to advance Indian education*. Charleston, WV: Clearinghouse on Rural Education and Small Schools.
- Tippeconnic III, J.W., and S.C. Faircloth. 2002. Using culturally and linguistically appropriate assessments to ensure that American Indian and Alaska Native students receive the special education programs and services they need. *ERIC Digest*. ERIC Document Reproduction Service No. ED 471 719. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.

# A Canonical Analysis of Successful and Unsuccessful High Schools: Accommodating Multiple Sources of Achievement Data in School Leadership<sup>1</sup>

**Robert C. Knoeppel  
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What distinguishes successful schools from unsuccessful schools? This question has relevance for the practice of educational leadership as well as the preparation of leaders. The social justice goals inherent in state and federal educational policy require equity in the outputs of schools so that all children may be afforded equality of educational opportunity. Accountability in education requires significant changes in leadership of schools and school districts.<sup>2</sup> Schools must organize themselves to accommodate student learning, however one chooses to measure that concept.<sup>3</sup> This new purpose of education has implications for school policy and the organization of schools.<sup>4</sup>

The extant literature is replete with studies detailing barriers to student achievement. These barriers are often attributed to race, socioeconomic status, and learning style. Despite the fact that barriers to student achievement exist, we know that leadership matters and that schools can overcome those barriers and aid students in achieving standards.<sup>5</sup> Successful schools are led by principals who set the direction and influence student learning, and who change the instructional process by focusing deliberately on teaching and learning.<sup>6</sup> Research indicates that a significant barrier to student achievement is teacher behavior, which is grounded in a system of beliefs.<sup>7</sup> Belief systems can be altered as evidenced by the fact that schools, even those with significant numbers of students living in poverty, can effectively close achievement gaps. Effective principals create school

cultures supportive of continuous improvement.<sup>8</sup> They assure that optimal learning opportunities are provided for everyone, but most particularly those who are not experiencing success.<sup>9</sup> The use of data to make instructional decisions is an important new part of the role of educational leaders. The proliferation of state and federal testing requirements has increased the amount of data available to educators with regard to student achievement. This study introduces a statistical method of analysis, canonical analysis, as a means by which educational leaders can examine multiple dependent measures of student achievement in order to prioritize school improvement initiatives.

## **Current Context of Educational Leadership**

Hodgkinson states that education connects with the range of human values and that educational leaders must understand the deep roots of purpose that underlie their schools.<sup>10</sup> That purpose, in an era of standards based reform, is to provide equality of educational opportunity for all students. Increasingly, educational leaders must be the stewards of a vision of success for all students as they work to achieve consensus on the purpose of education and to implement the necessary structures to change the process of teaching and learning in order to assist all children to reach mandated levels of proficiency.

With regard to the role of educational leaders, several themes have emerged in the literature. Due to the current context of education, previous models of school leadership are seen as outdated and in need of reform to meet the current demands of standards-based education reform. The role of the principal has evolved from manager to that of leader where leader is defined as change agent, facilitator, and consensus builder.<sup>11</sup> In order to successfully lead schools, principals must understand the goals of public education in the 21st century and act collaboratively to develop a shared vision of success. The path to effective school leadership requires reflection; this requires school leaders to examine their beliefs and values with regard to the purpose of education and the creation of culture and climate to support student learning.<sup>12</sup> Authentic leaders who are committed to their core values inspire followership and trust. This, in turn, enables the leader to articulate a shared vision and to create a learning organizations that focuses on continuous improvement.<sup>13</sup>

Previous leadership theory is thought to be insufficient to address the current demands of education as well as the principalship. The change in the notion of school leadership begins with a focus on culture.<sup>14</sup> Effective 21st century schools are characterized by a culture wherein there is a shared purpose; decisions are made collaboratively; responsibilities are distributed among teacher leaders; and capacity exists to create and sustain change through a process of data-driven decision making. Leaders of 21st century schools focus on the most important facet of the schooling process--instruction.<sup>15</sup> After facilitating shared purpose and changing school culture, educational leaders must establish new norms for behavior that establish learning communities wherein the expertise of all members of the faculty are maximized to support the school's mission.

Although the literature points to the conflict in the role of the principal as leader or manager, scholars also recognize the need for educational leaders to work as both a leader and a manager. Fullan notes, "I have never been fond of distinguishing between leadership and management; they overlap and [principals] need both qualities."<sup>16</sup> The Interstate School Leaders Licensure Consortium (ISLLC) represents efforts to capture the current complexity of the role of the principal and to provide a research-based structure for

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principal professional development.<sup>17</sup> The ISLLC standards define six important performance dimensions of the principalship. Although these performance standards are not listed in any particular order, it is understood that to be effective in the role of the principal, one must demonstrate a level of proficiency in each standard including the standard on instructional leadership (Standard 2) and management (Standard 3).

### **Data-Driven Decision Making and Instructional Leadership**

The conflict between principal roles of manager, decisions about *how* things should be done, and leadership, decisions about *what* should be done, necessitates that educators understand the process of decision making and its relationship to problem solving.<sup>18</sup> Elmore noted that the practice of educational leadership must be anchored in the instructional core of schools and that changes to systemic educational problems require systemic solutions.<sup>19</sup> Historically, educators have relied on intuition, routine, and experience to solve complex problems in the process of schooling.<sup>20</sup> What is needed is a reflective process that enables educators to understand what they are trying to do; to formulate, select, apply, and assess possible solutions; and thereby improve upon practice.<sup>21</sup> Simply stated, data-driven decision making involves the use of quantitative or qualitative information to inform practitioners when determining a course of action involving policy and procedures.<sup>22</sup> The use of data is at the heart of instructional leadership.

Black and William argue that in order for learning to occur, students must possess "recognition of the desired goal, evidence about present position, and some understanding of a way to close the gap between the two."<sup>23</sup> These three elements, when combined with some type of progress monitoring, form the heart of instructional leadership. Beghetto and Alonzo note that the aforementioned elements of instructional leadership are cyclical and that the process begins with clarifying learner outcomes.<sup>24</sup> The creation of clear targets is essential because it guides what is taught and assessed in schools.<sup>25</sup> A good curriculum helps teachers to establish and communicate clear targets of learning. Learner outcomes may take five forms: knowledge; reasoning; skill; product; and dispositions.<sup>26</sup> In order to establish a clear vision of learning, the curriculum must not only align with state and national standards but also be expressed in student-friendly terms.<sup>27</sup>

After clear learner outcomes have been established, schools must assess the present level of student performance. Stiggins, Arter, Chappuis, and Chappuis refer to this stage in the learning process as assessment for learning.<sup>28</sup> Due to high stakes assessments, principals and teachers tend to analyze data from end-of-the-year state administered tests, which is too late to change instructional practices for students needing remediation. Others argue that several tests are needed to measure what students have learned. For example, Popham states that "diverse types of classroom assessments to clarify the nature of any learning outcome you seek."<sup>29</sup> Further, Guskey argues that multiple assessments are needed to tap the full range and depth of learning, to respond to the reality of individual differences that exist among students, and to guard against potential errors in measurement.<sup>30</sup> Both Popham and Guskey indicate that classroom assessments supply teachers with needed information about student learning to modify instruction, especially when classroom assessments are used formatively.<sup>31</sup> Thus, teachers and principals have ample data to make instructional decisions; however, they may need

to organize data for analysis and identify interventions based on the use of summative and formative assessments.

The analysis and interpretation of data provide links to interventions that may require the use of a grade-level team, content area team, or professional learning community to make the aforementioned connections a reality. Unfortunately, the analysis of student outcomes is not always used as intended, and instruction remains unchanged. Joyce, Calhoun, and Hopkins point to the need for teachers and principals to search the knowledge base for curricular changes and instructional strategies to enhance student learning.<sup>32</sup> This should be done before following assessments with high-quality corrective instruction.<sup>33</sup> Thus, data-based decision making is only useful when, based upon the analysis of student assessments, interventions are identified to improve student learning. In large part, the selection of proper instructional strategies is dictated by the requirements of the No Child Left Behind Act of 2001 (NCLB) that educators make use of instructional programs that are grounded in "scientifically based research."<sup>34</sup> According to Met, "Research cannot and does not identify the right or best way to teach, nor does it suggest certain instructional practices should always or should never be used. But research can illuminate which instructional practices are most likely to achieve desired results, with which kinds of learners, and under what conditions."<sup>35</sup>

The final element in the process of instructional leadership is progress monitoring although one could argue that progress monitoring is an ongoing component of instruction and, as noted previously, it should not take place at the end of an initiative or program in order to be most effective. Progress monitoring is a form of evaluative decision making.<sup>36</sup> Those judgments may include: How to define and communicate goals; whether learners have the requisite skills; whether learners are making satisfactory progress; whether instructional supports and resources need to be adjusted; and how success might be sustained.

### **Conflicting Views on the Principal's Role in Curriculum Development and Instruction**

Who gets to make decisions about curriculum and classroom delivery of content? The standards movement was supposed to remove that decision from schools and teachers. By mandating that all children be exposed to the same curriculum, reformers sought to eliminate bias on the part of teachers as to who would be exposed to different content. Of course, questions still remain about rigor even when similar content is made available to students. The decision regarding curriculum delivery at the classroom level is especially important with regard to numeracy and literacy, and the literature points to conflicting views of the need to change curriculum. When content-area-specific reformers propose changes in curriculum, critics rail against the wished for changes. For example, in the mid 1950s to the mid 1960s, the "new" mathematics reformers had their critics, and the tension between them became known as the "math wars."<sup>37</sup> Even today, the standards promoted by the National Council of Teachers of Mathematics (NCTM) have opponents among columnists and parents.<sup>38</sup> However, conflict tends to hinge on anecdotal support as opposed to empirical evidence.

To answer the question of whether a relationship exists between control of curriculum by teachers and student achievement, Wiseman and Brown conducted a study whose results "suggest that a direct and positive relationship between teacher curricular control

and student achievement is both inappropriate and false,"<sup>39</sup> and that the pedagogy that teachers use "is one of the only truly independent actions of a teacher."<sup>40</sup> The findings of Leithwood, Louis, Anderson, and Wahlstrom that teachers in the classroom explain the largest amount of variance in student achievement scores lend support to the latter statement.<sup>41</sup> These findings lead one to conclude that the important use of teachers' energy is on formative assessments and modification of instructional strategies while principals' efforts should be on provision of an educational environment that is conducive to teaching and learning. This latter statement is supported by the findings from a study by Hofman, Hofman, and Guldmond that found "a positive educational climate, parents' educational involvement and effective school-based management are found to be prerequisites for an effective schooling process in countries all over the world."<sup>42</sup>

### Theoretical Framework

Current educational policy requires both equity in outcomes and a fundamental change in the process by which schools educate children. Linn notes that standards-based education reform offered a challenge to the practices of education that had differentiated both content and instruction based on perceptions of student ability.<sup>43</sup> The standards movement required more intellectually demanding content and pedagogy for all students and challenged deeply rooted beliefs about who can do intellectually demanding work.<sup>44</sup> In order to inform the practice of school leadership, the extant literature includes multiple studies examining the relationship between inputs to school and outputs of schools. From a strategic standpoint, the researchers believed that educational leaders could use of this knowledge to realign resource allocation to maximize student achievement. These studies made use of education production functions and included independent variables such as teacher quality; expenditures per pupil; use of technology; the role of the principal; and school characteristics, such as school size and school culture. While these studies have made meaningful contributions to the research literature, they focused on inputs to schooling rather than outputs or the process of education.

The changing role of the educational leader coupled with the focus on improved instruction necessitates the use of data to inform decisions. Clearly, an examination of data regarding inputs to schooling has strategic implications as educational leaders attempt to realign resource allocations to achieve different results. However, an examination of output data is also helpful in the strategic planning process. Because of the multiple goals of schooling, e.g., academic achievement, rate of attendance in postsecondary education, entry in to the work force, data analysis must include multiple dependent, or outcome, measures. We postulate that an analysis of multiple dependent variables speaks directly to the focus of schools and how they prioritize goals. As educational leaders struggle to efficiently utilize inputs to education, it would seem that the appropriate place to start is to thoroughly examine all educational outputs.

### Method and Results

This study used school level data from a total of 102 high schools in Kentucky. For the purpose of this study, schools that were classified as successful schools were high schools that met all NCLB outcome goals. In Kentucky, high schools must demonstrate proficiency in reading and mathematics as well as meet graduation targets in order to successfully fulfill NCLB requirements. Proficiency rates on

the state-mandated criterion-referenced examinations in reading and mathematics were examined for the 2005 through 2007 school years. Schools which met all annual measureable objects for each of the three years were classified as successful schools (N=33). Schools failing to make all annual measureable objects for each of the three years were classified as unsuccessful schools (N=69). In effect, schools were classified based on established NCLB criteria. Title I was not a consideration when classifying schools.

Eight independent variables, or inputs, were included in the study. The first three are measures of student demographics while the remaining five are school level resources identified in the extant literature as significant predictors of student achievement:

- 1) Percentage of students receiving free and reduced price lunch;
- 2) Percentage of students receiving services for special education;
- 3) Percentage of students receiving services for limited English proficiency (LEP);
- 4) Average class size;
- 5) Teacher education level;
- 6) Average teacher salary;
- 7) Years of teaching experience;
- 8) Expenditure per pupil.

Eleven dependent variables, or outcomes, were included in the study:

- 1) Graduation rate;
- 2) Proficiency rate on the criterion-referenced reading test;
- 3) Proficiency rate on the criterion-referenced mathematics test;
- 4) Retention rate;
- 5) Dropout rate;
- 6) Percentage of students enrolling in a four year college;
- 7) Percentage of students entering the military;
- 8) Percentage of students entering the workforce;
- 9) Percentage of students enrolling in a vocational education program;
- 10) Percentage of students working part time and attending college part time;
- 11) Percentage of students who made an unsuccessful transition from high school.

Means and standard deviations for dependent and independent variables appear in Table I.

To discern if differences existed in the independent variables between the two school groups, an independent sample t-test was performed. Significant differences were found to exist in all three measures of student demographics. However, no significant differences were found for two of the resource variables: class size or teacher quality. Similarly, an independent sample t-test was performed to discern if differences existed in group means in the dependent variables related to student achievement. Significant differences were found to exist in measures of student output for all dependent variables in this study, with two exceptions: percentage of students enrolling in a vocational education program and the percentage of students who fail to make a successful transition post-high school.

Having established that there was no significant difference between successful and unsuccessful schools in school level resources, we next turned our attention to answering the question: What is the difference in how outputs are prioritized in successful and

**Table 1**  
**Descriptive Statistics: Inputs and Outputs of Successful and Unsuccessful Schools**

Inputs and Outputs of Schooling	Schools			
	Successful (N = 33)		Unsuccessful (N = 69)	
Inputs	Mean	Standard Deviation	Mean	Standard Deviation
LEP Students (%)	.37	.51	1.41	2.91
Students Receiving Free/Reduced Price Lunch (%)	36.42	18.94	48.51	17.18
Special Education Students (%)	11.52	2.73	17.96	11.48
Average Teacher Salary (\$)	42,749.94	8,855.77	44,017.94	3,764.88
Average Class Size	15.94	3.53	15.87	1.99
Teachers with Master's Degree (%)	50.29	8.84	48.22	9.02
Years of Teaching Experience	11.78	2.05	10.98	2.08
Expenditure Per Pupil (\$)	5,892.76	1,058.19	6,469.26	1,770.45
<b>Outputs</b>				
	Mean	Standard Deviation	Mean	Standard Deviation
Graduation Rate	91.71	6.36	81.78	8.72
Reading Proficiency	67.88	13.3	55.34	9.71
Math Proficiency	48.48	16.08	32.13	9.62
Students Retained (%)	3.46	2.09	7.52	4.12
Dropout Rate (%)	1.42	1.25	3.57	2.36
Students Attending 4 Year College (%)	60.90	17.40	49.74	16.39
Students in Military Service (%)	1.86	1.43	2.54	1.57
Students in Workforce (%)	24.62	14.13	30.36	11.55
Students in Vocational Education (%)	4.59	4.89	4.54	3.35
Students Attending College Part Time (%)	5.133	6.69	8.37	8.28
Students who Failed to Transition (%)	2.84	2.72	4.67	4.80

unsuccessful schools? To answer this question, a canonical analysis was performed on each group. Conceptually, canonical analysis and multiple regression are similar in terms of purpose and assumptions. The two methodologies differ in that canonical analysis enables the researcher to include multiple dependent measures. According to Thompson, a multivariate method of analysis can better simulate the reality from which the researcher is making generalizations.<sup>45</sup> Because researchers care about multiple outcomes, and because outcomes are the result of myriad factors, the chosen method of analysis must honor the researchers' view of reality; otherwise there will be a distortion of results.<sup>46</sup>

Canonical analysis is a multivariate method of analysis that subsumes other parametric techniques such as t-tests, analysis of variance, regression, and discriminant analysis.<sup>47</sup> In canonical analysis, two linear combinations are formed, one of the predictor variables and one of the criteria variables, by differentially weighting them so that the maximum possible relationship between them is obtained.

These linear combinations are referred to as the canonical variates and the relationship between the canonical variates is called the canonical correlation,  $R_c^2$ . The square of the canonical correlation,  $R_c^2$ , is an estimate of the variance shared by the two canonical variates. It is not an estimate of the variance shared between the predictors and criteria but rather of the linear combination of these variables.<sup>48</sup> Canonical correlation finds the relationship between the linear combination of dependent and independent variables. After having obtained the maximum  $R_c$  in canonical analysis, additional  $R_c$ 's are calculated, subject to the restriction that each succeeding pair of canonical variates of the  $X$ 's and the  $Y$ 's not be correlated with all the pairs of canonical variates that precede it. Like factor analysis and discriminant analysis, the first canonical correlation will probably not account for all of the variance in the data.<sup>49</sup> The first pair of linear combinations is the one that yields the highest  $R_c$  possible in a given data set. The second  $R_c$  is based on the linear combinations of predictor and criterion variables that are not correlated with the

first pair and that yield the second largest  $R_c$  possible in the given data set. The same calculation follows for succeeding  $R_c$ 's with the maximum number of  $R_c$ 's extracted equal to the number of variables in the smaller set of dependent or independent variables. A test of significance exists for each canonical correlation and for the total amount of variance accounted for in the two sets of variables. In addition to more scientific tests of significance, the literature suggests that canonical correlations that explain less than 10% of the shared variance are not considered to be meaningful.<sup>50</sup>

Sheskin and Thompson state the complexity of calculation coupled with the difficulty of interpretation of results has limited the use of canonical analysis.<sup>51,52</sup> As such, a brief explanation of guidelines for interpretation is offered. First, the statistical significance of each canonical correlation is determined by a Wilk's test. Interpretation of these results is similar to that of a Pearson correlation as one is interested in significance, size, and total variance explained by each relationship. The researcher retains any canonical correlations that are found to be statistically significant and proceeds to interpret any statistics (canonical loadings, standardized canonical coefficients, and cross loadings) that are associated with the canonical variates. Finally, the examination may include an inspection of redundancy. Three types of analysis are possible using canonical analysis. These include an interpretation of the relative importance of independent variables, an interpretation of the relative importance of dependent variables, and an interpretation of the relationship of individual variables with the linear combination of variables in the opposite set.

Both the standardized canonical coefficients and the canonical loadings provide the necessary information to discern the relative importance of independent and dependent variables. Standardized canonical coefficients are weights assigned to each variable so that the maximum possible Pearson correlation can be found between the canonical variates. The use of the standardized canonical coefficients is valuable since the coefficients are partial coefficients with the effect of the other variables removed.<sup>53</sup> Standardized canonical coefficients are interpreted in much the same way that one interprets a standardized regression coefficient in multiple regression.

The correlation between the canonical variate and the variable is called the canonical loading. The cross loading is the correlation between individual variables and the linear combination of the opposite set of variables. During each of these examinations, the researcher is interested in the largest (absolute value) coefficients or correlations that are used.<sup>54</sup> The literature reveals that an interpretation of the results of canonical analysis is strengthened by an examination of canonical loadings and cross loadings for two reasons. First, it is assumed that there is greater stability in the correlation statistic when there are high or fairly high intercorrelations among the variables and the sample is of small or medium size. Second, the correlations provide a more clear indication of which variables are most closely aligned with the canonical variate. The researcher is interested in these correlations since the canonical variate is an unobserved trait.<sup>55</sup> As a rule of thumb, canonical loadings and cross loadings that are greater than .30 should be treated as meaningful.<sup>56</sup>

## Analysis of Results

Results of the canonical analysis for successful schools and unsuccessful schools are found in Table 2 and Table 3 respectively. These results indicate one statistically significant relationship between the linear combination of inputs and outputs for each set of schools:

- Successful schools  $R_c=.950$ , Wilk's (88)=.003,  $p<.037$
- Unsuccessful schools  $R_c=.795$ , Wilk's (88)=.080,  $p<.000$

The interpretation of the data results will be made on the output variates for this study. Using a cutoff correlation of .30 for interpretation, the output variables relevant to the canonical variate in the successful schools set were, in order of magnitude:

1. Mathematics proficiency (-.885)
2. Percentage of students entering the workforce (.861)
3. Percentage of students attending college (-.854)
4. Reading proficiency (-.721)
5. Graduation rate (-.707)
6. Failure to transition (.467)
7. Dropout rate (.421)
8. Retention rate (.373)

Similarly, the output variables relevant to the canonical variate in the unsuccessful schools set were, in order of magnitude:

1. Dropout rate (-.813),
2. Graduation rate (.725),
3. Percentage of students attending college (.700),
4. Mathematics proficiency (.683),
5. Percentage of students entering the workforce (-.639),
6. Reading proficiency (-.608),
7. Percentage of students entering the military (-.375),
8. Percentage of students working part time and attending post secondary education part time (-.326)
9. Failure to transition (-.309).

The results of the canonical analysis reveal that the most heavily weighted outcome in successful high schools was math proficiency. That outcome variable was followed by the output variables percentage of students entering the workforce; percentage of students enrolling in a four year college; and proficiency in reading. These results indicate that successful schools in this study placed emphasis on the academic content areas of mathematics and reading, and were committed to the retention of students so that they complete their high school education.

By contrast, the most heavily weighted output variable in the sample of unsuccessful high schools was the dropout rate. While the results of this analysis did not allow us to conclude that unsuccessful schools tried to fail, we can conclude from these results that unsuccessful schools were not aligning their resources in a manner that resulted in improved measures of student achievement. In addition, these schools need to focus on why students are not achieving as opposed to strategies to keep them from dropping out. This output variable was followed by graduation rate, percentage of students enrolling in a four year college and math proficiency rate. The two most heavily weighted output variables in unsuccessful schools were not measures of student achievement that demonstrated a focus on academic content, nor were they output variables that demonstrated a level of preparation for life following high school. In fact, these outcome variables simply measure high school completion rates and have nothing to do with academic or vocational skills. It is a hopeful finding that unsuccessful schools place emphasis on college going rates and math proficiency; however, we postulate that not all children in these schools are exposed to the requisite level of curriculum that will enable them to enroll in and complete a four year degree nor are there equal expectations for all students in these schools. These data are helpful for strategic planning purposes and illustrate changes needed.

**Table 2**  
**Canonical Analysis for Successful Schools**

Inputs and Outputs of Schooling		First Canonical Variate		
		Loading	Coefficient	Cross Loading
Inputs				
LEP Students (%)		-.149	.046	-.142
Students Receiving Free/Reduced Price Lunch (%)		.964	.784	.915
Special Education Students (%)		.454	.137	.431
Average Teacher Salary (\$)		-.550	-.413	-.523
Average Class Size		-.623	.169	-.591
Teachers with Master's Degree (%)		.120	.032	.114
Years of Teaching Experience		-.171	.089	-.163
Expenditure Per Pupil (\$)		.338	.232	.321
Outputs		Loading	Coefficient	Cross Loading
Graduation Rate		-.707	-.482	-.671
Reading Proficiency		-.721	-.067	-.685
Math Proficiency		-.885	-.638	-.841
Students Retained (%)		.373	-.176	.354
Dropout Rate (%)		.421	-.231	.399
Students Attending 4 Year College (%)		-.854	15.437	-.811
Students in Military Service (%)		.103	1.279	.097
Students in Workforce (%)		.861	12.722	.818
Students in Vocational Education (%)		.015	4.456	.014
Students Attending College Part Time (%)		.186	6.332	.177
Students who Failed to Transition (%)		.467	2.269	.443
Canonical Correlation		.950		
Wilk's		.003		
Significance		.037		
Percent of Variance (%)		90.2		
Redundancy		.350		

**Implications for Practice**

This study considered the research question how do successful schools differ from schools unsuccessful? If data-driven decision making is indeed a process by which practitioners utilize data to make informed, strategic decisions about the alignment of resources and the process of school improvement, the chosen method of data analysis must accommodate the multiple realities of schooling. Canonical analysis is a method of analysis that allows researchers to make use of multiple dependent variables. We contend that this method best allows researchers and practitioners to simulate the reality of schooling.

As noted, instructional leadership and data driven decision making requires not only a conversation of *what* must be done, but also *how* things must be done. The results from this study suggest that successful schools are schools where there is a strong focus on proficiency in math content as well as a focus on school completion and planning for the future. Successful schools prepare their students to transition to the workforce or to further their education. The *what* of leadership in successful schools is to ensure that all students are given access to a rigorous curriculum and to provide opportunities for mentoring and planning for post-high school transitions. Failure to

**Table 3**  
**Results of Canonical Analysis for Unsuccessful Schools**

Inputs and Outputs of Schooling		First Canonical Variate		
Inputs		Loading	Coefficient	Cross Loading
LEP Students (%)		-.291	.053	-.231
Students Receiving Free/Reduced Price Lunch (%)		-.852	-.542	-.677
Special Education Students (%)		-.345	-.096	-.275
Average Teacher Salary (\$)		-.171	-.221	-.136
Average Class Size		.747	.351	.594
Teachers with Master's Degree (%)		.442	.278	.351
Years of Teaching Experience		.336	.274	.268
Expenditure Per Pupil (\$)		-.611	-.009	-.485
Outputs		Loading	Coefficient	Cross Loading
Graduation Rate		.725	.155	.576
Reading Proficiency		.608	-.015	.483
Math Proficiency		.683	.281	.543
Students Retained (%)		-.293	-.028	-.233
Dropout Rate (%)		-.813	-.464	-.646
Students Attending 4 Year College (%)		.700	-.537	.557
Students in Military Service (%)		-.375	-.259	-.298
Students in Workforce (%)		-.639	-.621	-.508
Students in Vocational Education (%)		.128	-.123	.102
Students Attending College Part Time (%)		-.326	-.467	-.259
Students who Failed to Transition (%)		-.309	-.213	-.246
Canonical Correlation		.795		
Wilk's		.080		
Significance		.000		
Percent of Variance (%)		63.2		
Redundancy		.306		

expose students to content at the appropriate level of rigor is often the result of bias. An appropriate role for principals is to take a leadership role in ensuring that state mandated curriculum is taught in each classroom without bias.

The how of leadership is seen in the culture of individual schools. Principals need to facilitate the work of teachers in the classroom. Although curriculum development is important, it appears that the delivery of curriculum is a crucial factor in student achievement. Thus, school leaders should place emphasis on developing a culture that is focused on teaching and learning. Recently, formative assessment systems and professional learning communities are receiving

attention as parts of a positive school culture. Use of the aforementioned initiatives, formative assessment and professional learning communities, engages teachers in meaningful conversations centered on the process of teaching and learning and will aid in the improvement process.

## Endnotes

<sup>1</sup> This article is based upon a paper originally presented at the Annual Convention of the University Council for Educational Administration, Orlando, Florida, November, 2008.

<sup>2</sup> Kenneth K. Wong and Anna Nicotera, *Successful Schools and Educational Accountability: Concepts and Skills to Meet Leadership Challenges* (Boston, MA: Pearson Education, Inc., 2007).

<sup>3</sup> James P. Spillane and Karen Seashore Louis, "School Improvement Processes and Practices: Professional Learning for Building Instructional Capacity," in *The Educational Leadership Challenge: Redefining Leadership for the 21st Century*, ed. Joseph Murphy, 84-103 (Chicago, IL: University of Chicago Press, 2002).

<sup>4</sup> Linda Darling-Hammond, *The Right to Learn: A Blueprint for Creating Schools that Work* (San Francisco, CA: Jossey-Bass, 1997).

<sup>5</sup> Philip Hallinger and Ronald H. Heck, *Exploring the Principal's Contribution to School Effectiveness, 1980-1995* (Washington, DC: Institute for Educational Leadership, 2000).

<sup>6</sup> Stephen Davis, Linda Darling-Hammond, Michelle LaPointe, and Debra Meyerson, *School Leadership Study: Developing Successful Principals* (Stanford, CA: Stanford Educational Leadership Institute, 2002); Hallinger and Heck, *Exploring the Principal's Contribution to School Effectiveness*; Eric A. Hanushek, "Assessing the Effects of School Resources on Student Performance: An update," *Educational Evaluation and Policy Analysis* 19 (January 1997): 141-164; Kenneth Leithwood, Karen Seashore Louis, Stephen Anderson, and Kyla Wahlstrom, *How Leadership Influences Student Learning* (Minneapolis, MN: Center for Applied Research and Educational Improvement, University of Minnesota, 2004); Tim Waters, Robert J. Marzano, and Brian McNulty, *Balanced Leadership: What 30 Years of Research Tells Us About the Effect of Leadership on Student Achievement* (Aurora, CO: Mid-Continent Research for Education and Learning [McRel], 2003).

<sup>7</sup> Richard DuFour and Robert Eaker, *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement* (Bloomington, IN: National Educational Service, 1998); Richard F. Elmore, *Building a New Structure for School Leadership* (Washington, DC: Albert Shanker Institute, 2000); Jennifer Hochschild and Nathan Scovronick, *The American Dream and the Public Schools* (New York: Oxford University Press, 2003).

<sup>8</sup> Susan Sullivan and Jeffrey Glanz, *Building Effective Learning Communities: Strategies for Leadership, Learning, and Collaboration* (Thousand Oaks, CA: Corwin Press, 2006); Allison Zmuda, Robert Kuklis, and Everett Kline, *Transforming Schools: Creating a Culture of Continuous Improvement* (Alexandria, VA: Association for Supervision and Curriculum Development, 2004).

<sup>9</sup> Alan M. Blankstein, *Failure Is Not an Option: Six Principles that Guide Student Achievement in High-Performing Schools* (Thousand Oaks, CA: Corwin Press and Hope Foundation, 2004); Richard DuFour, Rebecca DuFour, Robert Eaker, and Gayle Karhanek, *Whatever It Takes: How Professional Learning Communities Respond when Kids Don't Learn* (Bloomington, IN: National Educational Service, 2004).

<sup>10</sup> Christopher Hodgkinson, ed., *Educational Leadership: The Moral Art* (Albany, NY: State University of New York Press, 1991).

<sup>11</sup> Lynn G. Beck and Joseph Murphy, *Understanding the Principalship: Metaphorical Themes, 1920's-1990's* (New York: Teachers College Press, 1993).

<sup>12</sup> Linda Darling-Hammond, "Excellent Teachers Deserve Excellent Leaders," paper based on remarks delivered at the Wallace Foundation National Conference, "Education Leadership: A Bridge to School Reform," October 22, 2007, New York, <http://www.wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Center/Attachments/PDF/ABridgetoSchoolReformfinalPDF.pdf>.

<sup>13</sup> James M. Kouzes and Barry Z. Posner, *The Leadership Challenge*, 3rd ed. (San Francisco, CA: Jossey-Bass, 2002); Michael Fullan, *The New Meaning of Educational Change*, 3rd ed. (New York: Teachers College Press, 2001); Joseph Blase and Peggy C. Kirby, *Bringing Out the Best in Teachers: What Effective Principals Do*, 2nd ed. (Thousand Oaks, CA: Corwin Press, 2000); Rob Evans, *The Human Side of Change: Reform, Resistance, and the Real-life Problems of Innovation* (San Francisco, CA: Jossey-Bass, 1996).

<sup>14</sup> Sullivan and Glanz, *Building Effective Learning Communities*; Zmuda, Kuklis, and Kline, *Transforming Schools*.

<sup>15</sup> Kenneth A. Leithwood and Carolyn Riehl, "What Do We Already Know About Educational Leadership?" In *A New Agenda for Research in Educational Leadership*, ed. William A. Firestone and Carolyn Riehl, 12-27 (New York: Teachers College Press, 2005); Robert J. Marzano, Tim Waters, and Brian McNulty, *School Leadership that Works: From Research to Results* (Alexandria, VA and Aurora, CO: Association for Supervision and Curriculum Development, Mid-continent Research for Education and Learning, 2005).

<sup>16</sup> Michael Fullan, *Leading in a Culture of Change* (San Francisco, CA: Jossey-Bass, 2001), 2.

<sup>17</sup> Joseph Murphy, Jost Yff, and Neil Shipman, "Implementation of the Interstate School Leaders Licensure Consortium Standards," *International Journal of Leadership in Education* 3 (Jan-March 2000): 17-39; Eddy J. Van Meter and Cynthia A. McMinn, "Measuring a Leader," *Journal of Staff Development* 22 (Winter 2001): 32-35.

<sup>18</sup> Theodore J. Kowalski, Thomas J. Lasley II, and James W. Mahoney, *Data Driven Decisions and School Leadership: Best Practices for School Improvement* (Boston, MA: Pearson, 2008); Paula M. Short and James S. Rinehart, "Teacher Empowerment and School Climate," *Education* 113 (Summer 1993): 592-597.

<sup>19</sup> Richard F. Elmore, "Breaking the Cartel," *Phi Delta Kappan* 87 (March 2006): 517-518.

<sup>20</sup> Denis P. Doyle, "Knowledge-Based Decision Making," *School Administrator* 59 (March 2002): 30-34.

<sup>21</sup> Short and Rinehart, "Teacher Empowerment"; Kowalski, Lasley, and Mahoney, *Data Driven Decisions and School Leadership*.

<sup>22</sup> Anthony G. Picciano, *Data Driven Decision Making for Effective School Leadership* (Upper Saddle River, NJ: Pearson, 2006).

- <sup>23</sup> D. Royce Sadler as cited in Paul Black and William Dylan, "Inside the Black Box: Raising Standards through Classroom Assessment," *Phi Delta Kappan* 80 (October 1998): 139-144.
- <sup>24</sup> Ronald A. Beghetto and Julie Alonzo, "Instructional Leadership: Supporting the Learning Process," in *School Leadership: Handbook for Excellence in Student Learning*, 4th ed., ed. Stuart C. Smith and Philip K. Piele, 284-301 (Thousand Oaks, CA: Corwin Press, 2006).
- <sup>25</sup> Richard J. Stiggins, Judith A. Arter, Jan Chappuis, and Steve Chappuis, *Classroom Assessment for Student Learning: Doing It Right – Using It Well* (Upper Saddle River, NJ: Prentice Hall, 2007).
- <sup>26</sup> Ibid.
- <sup>27</sup> Ibid.
- <sup>28</sup> Ibid.
- <sup>29</sup> W. James Popham, *The Truth About Testing: An Educator's Call to Action* (Alexandria, VA: Association for Supervision and Curriculum Development, 2001), 111.
- <sup>30</sup> Thomas R. Guskey, "Multiple Sources of Evidence: An Analysis of Stakeholders' Perceptions of Various Indicators of Student Learning," *Educational Measurement: Issues and Practice* 26 (Spring 2007): 19-27.
- <sup>31</sup> Popham, *The Truth About Testing*; Guskey, "Multiple Sources of Evidence."
- <sup>32</sup> Bruce R. Joyce, Emily Calhoun, and David Hopkins, *The New Structure of School Improvement: Inquiring Schools and Achieving Students* (Philadelphia, PA: Open University Press, 1999).
- <sup>33</sup> Thomas R. Guskey, "Using Assessments to Improve Teaching and Learning," in *Ahead of the Curve: The Power of Assessment to Transform Teaching and Learning*, ed. Douglas Reeves (Bloomington, IN: Solution Tree, 2007).
- <sup>34</sup> The No Child Left Behind Act of 2001, Public Law 107-110, 20 USC 6301, January 8, 2002, <http://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf>.
- <sup>35</sup> Myriam Met as cited in Beghetto and Alonzo, "Instructional Leadership," in *School Leadership*, ed. Smith and Piele, 299.
- <sup>36</sup> Ronald A. Beghetto and Leanne R. Ketterlin-Geller, "Instructional Leadership: Progress Monitoring," in *School Leadership: Handbook for Excellence in Student Learning*, 4th ed., ed. Stuart C. Smith and Philip K. Piele, 302-317 (Thousand Oaks, CA: Corwin Press, 2006).
- <sup>37</sup> DeMott (1962) as cited in Jeremy Kilpatrick, "The Mathematics Teacher and Curriculum Change," *PNA* 3 (3): 110, <http://www.pna.es/Numeros/pdf/Kilpatrick2009The.pdf>.
- <sup>38</sup> Kilpatrick, "The Mathematics Teacher and Curriculum Change."
- <sup>39</sup> Alexander W. Wiseman and David S. Brown, "Teacher Curricular Control and Student Performance: A Cross-National Study of Curricular Accountability," *Curriculum and Teaching Dialogue* 5 (2003): 142.
- <sup>40</sup> Ibid., 143.
- <sup>41</sup> Leithwood et al., *How Leadership Influences Student Learning*. Note that Leithwood et al. found principals explained the second largest amount of variance in student achievement scores.
- <sup>42</sup> Roelande H. Hofman, W.H. Adrian Hofman, and Henk Guldemon, "School Governance, Culture, and Student Achievement," *International Journal of Leadership in Education* 5 (July-September 2002): 268.
- <sup>43</sup> Robert L. Linn, "Assessments and Accountability," *Educational Researcher* 29 (March 2000): 4-16.
- <sup>44</sup> James P. Spillane, "State and Local Government Relations in the Era of Standards-Based Reform: Standards, State Policy Instruments, and Local Instructional Policy Making," *Educational Policy* 13 (September 1999): 546-573.
- <sup>45</sup> Bruce Thompson, "Methods, Plainly Speaking: A Primer on the Logic and Use of Canonical Correlation Analysis," *Measurement and Evaluation in Counseling and Development* 24 (1991): 80-93.
- <sup>46</sup> Ibid.
- <sup>47</sup> Elazar J. Pedhazur, *Multiple Regression in Behavioral Research: Explanation and Prediction*, 3rd ed. (New York: Harcourt Brace College Publishers, 1997); Thompson, "Methods, Plainly Speaking."
- <sup>48</sup> Pedhazur, *Multiple Regression in Behavioral Research*.
- <sup>49</sup> Francis J. Kelly, Donald L. Beggs, and Keith A. McNeil, *Research Design in the Behavioral Sciences: Multiple Regression Analysis* (Carbondale, IL: Southern Illinois University Press, 1969).
- <sup>50</sup> Pedhazur, *Multiple Regression in Behavioral Research*.
- <sup>51</sup> David J. Sheskin, *Handbook of Parametric and Nonparametric Statistical Procedures*, 2nd ed. (Washington, DC: Chapman and Hall/CRC, 2001).
- <sup>52</sup> Thompson, "Methods, Plainly Speaking."
- <sup>53</sup> James P. Stevens, *Applied Multivariate Statistics for the Social Sciences*, 3rd ed. (Mahwah, NJ: Lawrence Erlbaum Associates, Publishers, 1996).
- <sup>54</sup> Ibid.
- <sup>55</sup> Weinberg and Walberg (1973) as cited in Stevens, *Applied Multivariate Statistics*.
- <sup>56</sup> Pedhazur, *Multiple Regression in Behavioral Research*; and Stevens, *Applied Multivariate Statistics for the Social Sciences*.

# The Economics and Financing of Urban Schools: Toward a Productive, Solution-Oriented Discourse

Faith E. Crampton

Across the nation, a surprising number of both critics and advocates of urban schools demonstrate a naïveté about the limits and possibilities of funding in relationship to the academic success of urban students. On one hand, critics often argue, without solid evidence or informed analysis, that urban school districts have sufficient funds to educate their students, and hence the real problem is wasteful financial practices (Grubb 2009).<sup>1</sup> On the other hand, some advocates present a unidimensional, and ultimately self-defeating, case that insufficient funding is the sole source of urban school woes; and, by doing so, fail to acknowledge the range of factors in urban environments that contribute to low test scores and graduation rates (Anyon 2005). As a result, both sides end up talking past one another, progress is stalled, and children suffer.

In order to engage in a more productive and solution-oriented discourse, this article proposes a common framework and language for discussing urban school finance and its role in improving children's lives. It also provides a straightforward description of the basic mechanics of school funding and the relative roles of local, state, and federal government in that function. Together, these provide stakeholders with the tools to incorporate the results of relevant research-based and evidence-based analyses into solution-oriented conversations. The article then closes with eight recommendations for those who seek to improve the education of urban children on how they can become more engaged in this discourse.

## Background and Rationale

It is important to begin with major areas where critics and advocates of urban schools agree and disagree because these provide the context for the application of the framework described in the next section. First, many critics as well as advocates of urban schools share a common concern about urban students' academic success where, for better or worse, success is often narrowly defined in terms

of standardized test scores in core subjects and high school graduation rates. Few among them would disagree that academic success is desirable for both students and society. It is well-established that high school graduates in the United States have higher life time earnings than nongraduates and hence a higher quality of living (Day and Newburger 2002). High school graduation is generally a prerequisite for college attendance. In turn, college graduates have higher life time earnings than high school graduates (Day and Newburger 2002). Together, high school and college graduation translate into a better quality of life for urban students and higher tax revenues which benefit society as a whole by providing funds to support a broad spectrum of public programs and services we take for granted, such as police, firefighters, roads, schools, parks, and libraries—to name just a few. In addition, high school graduates are less likely to engage in criminal activity or need social welfare support than noncompleters (Lochner and Moretti 2003; Thornberry, Moore, and Christenson 1985). High school graduation thus benefits communities by making them safer while allowing individual taxpayers to spend less on police protection and the criminal justice system.

However, there may be some ambiguity and even disagreement about what makes a school district “urban.” In a solution-oriented discussion, a common definition of terms is essential. In this case, the discussion is complicated by the fact that there is no universal definition of an urban school district, and, so, for example, when reading or hearing media accounts describing “urban” schools, it is possible that a wide range of definitions is being used. Here it is helpful to look toward national sources like the U.S. Department of Education which classifies school districts based upon their location within cities, suburbs, small towns, and rural areas (Snyder, Dillow, and Hoffman 2009), a classification which is drawn from the U.S. Census Bureau. In this classification system, cities are divided into large, midsize, and small where large cities are defined as those with a population of at least 250,000, and the population for midsize cities ranges from 100,000 to 250,000. Small cities are those with a population under 100,000. Thus, it is the size of the city rather than the size of the school district's student enrollment that determines its classification as urban.

In contrast, organizations like the Council for Great City Schools (CGCS) limit their membership to school districts located within large cities and school districts with 35,000 or more students, regardless of type.<sup>2</sup> Importantly, these criteria leave out many small to midsize cities whose school districts, particularly in more rural states, are often considered urban. For example, in Wisconsin, midsize cities like Madison, the state capital, and Green Bay as well as school districts in small cities such as Kenosha and Racine are generally considered urban by Wisconsin policymakers even though they would not be eligible for CGCS membership. (See Table 1.) Nor would these midsize and small city school districts, whose student enrollments range from 20,733 to 24,540, meet the CGCS minimum of 35,000 students.<sup>3</sup> For example, in Wisconsin, only the Milwaukee Public Schools would be considered an urban school district by CGCS because Milwaukee, with a population of 583,624, is classified as a large city.

Because midsize to small city school districts share many of the same challenges with their large city counterparts,<sup>4</sup> it is important to include them in any solution-oriented discourse on urban schools. Nationally, urban school districts enrolled approximately 14.5 million students, approximately 30% of the nation's 48.9 million students in 2008 (U.S. Department of Education 2010b). (See Table 2.)<sup>5</sup> This

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**Table 1**  
**Wisconsin's Urban School Districts**

City	City Classification	City Population	Student Enrollment
Milwaukee	Large	583,624	85,672
Madison	Midsized	220,332	24,540
Green Bay	Midsized	100,353	20,749
Kenosha	Small	96,240	22,622
Racine	Small	79,572	20,733

Data Sources: U.S. Census Bureau (2006) [city classification and population] and Wisconsin Department of Public Instruction (2008) [student enrollment].

represents a large number and a substantial percentage of U.S. school children and, as such, lends a sense of urgency to calls by both advocates and critics for the improvement of academic outcomes. However, when it comes to money, these groups part ways. Critics often assert that urban school districts spend a great deal more than other types of school districts and conclude that this is a marker of inefficient and wasteful practices. Yet, national data do not support this assertion. On average, states spent \$10,273 per pupil in 2007-2008 (the most recent national, disaggregated data)<sup>6</sup> while urban school districts spent \$9,575 per pupil<sup>7</sup> or 6.8% less. Data from Wisconsin differ somewhat whereby urban school districts spend slightly more than the state average. For the 2006-2007 school year (the latest Wisconsin data available), Wisconsin's urban school districts spent between \$10,064 and \$12,156 per pupil, or an average of \$10,840 (Wisconsin Department of Public Instruction 2009).<sup>8</sup> (See Table 3.) This latter amount is 4.8% above the average of \$10,344 per pupil for all Wisconsin school districts, which translates in an additional \$496 per student, and it is a far cry from the state's highest spending district (located in a Milwaukee suburb) at \$18,497 per pupil. These national and state data, collected from authoritative sources, stand to reject the assertion that urban school districts are "high spenders" relative to other types of districts, and hence wasteful. Furthermore,

there is no systematic body of research evidence that urban school districts are less efficient than other types of school districts with regard to resource allocation decisions. Advocates and critics must be mindful to use research-based evidence and not be swayed by ideology-based statements that are unsupported by data.

### A Framework for Analysis of Urban School Funding

The funding of urban schools can be analyzed through the lens of five common school finance principles: equity, adequacy, efficiency, accountability, and stability (Crampton and Whitney 1996). The concepts of equity, efficiency, and stability are grounded theoretically in the disciplines of economics and public finance while adequacy is a relative newcomer to school finance discussions and remains an ambiguous concept given its atheoretical nature (Crampton, 1990). The term adequacy arose in state-level school finance policy discussions and court cases in the 1970s and has continued to increase in importance particularly in school finance court cases in the 1990s up through the present (Thompson and Crampton 2002). Likewise, fiscal accountability is an atheoretical concept that emerged around this time period. Some would link accountability conceptually to efficiency, but, in this article, it stands alone given its importance in education funding discussions. Below each concept is explained in more detail.

#### Equity

Equitable funding is of particular interest to urban school advocates given the large numbers and high percentages of at-risk students in urban school districts. Although *equity* is often defined broadly as "equality of educational opportunity," it is helpful to think of fiscal equity as either horizontal or vertical in nature. Horizontal equity is defined as the equal treatment of equals while vertical equity is defined as the unequal treatment of unequals. For example, if every school district received exactly the same amount of funding per pupil, we would conclude that there exists horizontal equity. However, such an arrangement would likely be met with protests of its unfairness to students who need additional resources to be successful academically. To that end, the principle of vertical equity recognizes that students' educational needs differ, and so it is necessary to spend more on some students than others. As such, in discussions of equity and equitable funding, discussants need to be careful to indicate whether they are referring to horizontal or vertical equity.

**Table 2**  
**Urban School District Enrollment and Expenditure per Pupil**

	U.S. Total	City			Suburban			Town			Rural		
		Large	Midsized	Small	Large	Midsized	Small	Fringe	Distant	Remote	Fringe	Distant	Remote
Student Enrollment (in thousands)*	48,910	7,450	3,157	3,781	14,475	1,599	1,049	2,155	2,373	1,620	6,504	3,541	1,207
Expenditure per Pupil (\$) **	10,273	10,236	9,158	9,332	9,817	8,851	8,523	8,729	8,560	8,483	8,628	8,734	9,856

\*2007-2008 school year

\*\*2006-2007 school year

Source: U.S. Department of Education, 2010a, 2010b.

Note: Expenditure per pupil represents current expenditure; that is, expenditure without capital outlay.

**Table 3**  
**Wisconsin Urban School District Expenditures,**  
**2006-2007**

<b>School District</b>	<b>Expenditure Per Pupil (\$)</b>	<b>State Rank <sup>a</sup> (425 districts)</b>
Madison	\$12,156	39
Milwaukee	\$11,379	57
Green Bay	\$10,494	146
Kenosha	\$10,064	213
Racine	\$10,107	244
Wisconsin Average	\$10,344	
U.S. Average <sup>b</sup>	\$9,557	

<sup>a</sup> State ranking was calculated from highest to lowest district per pupil expenditure.

<sup>b</sup> Estimated.

Sources: Wisconsin Department of Public Instruction (2009) [Wisconsin data]. National Education Association (2007), Table 2, p. 67 [U.S. average].

#### *Adequacy*

School districts need adequate funding to meet state and federal educational standards.<sup>9</sup> Adequacy here is defined as “sufficiency.” Increasingly, urban school advocates have been successful in school finance litigation cases, such as the Campaign for Fiscal Equity in New York City (2003, 2006), in convincing state courts to overturn state funding systems that do not take into consideration the additional funding needed by urban schools to ensure that all children meet state academic standards. With regard to federal standards, many urban school districts have struggled to meet the mandate of “adequate yearly progress” in the No Child Left Behind Act of 2001, and many now face sanctions as “districts identified in need of improvement” under federal law. Yet, federal funding represents a very small percentage of total school district funding, between 5.9% and 12.8% (Snyder et al. 2009), a level deemed insufficient by many to meet such broad mandates.

#### *Efficiency*

Efficiency refers to making the best use of limited resources. It does not mean simply choosing the cheapest products, services, or personnel (Crampton and Vesely 2006). Many school districts, not just those in urban areas, struggle to provide their students with the type of education required by state-mandated and federally-mandated standards with the revenues they have. However, urban school districts are often scapegoated, accused of “wasting” public money because their test scores and graduation rates are lower than those of more affluent school districts. There is no shortage of media articles and politically motivated reports that purport such inefficiencies. It is undoubtedly challenging for some laypersons to analyze many of these. However, in general, these types of reports are, at best,

incomplete and, at worst, biased. Stakeholders should be particularly wary of any report that does not fully disclose its research methods and data sources.

#### *Accountability*

Accountability in this context refers to fiscal accountability. Urban school districts, largely due to their size and visibility, receive disproportionate media coverage as compared to their nonurban counterparts, such that their financial management and resource allocation decisions often receive greater scrutiny. Therefore, for better or worse, it behooves urban school district boards and administrators to be proactive in communicating with the media and public how they hold themselves fiscally accountable. By the same token, those committed to the success of urban schools need to take advantage of the information available to them in the public domain and demand transparency. For example, in many states, like Wisconsin, school districts are required by state law to conduct annual external financial audits as well as to use uniform state department of education budgeting and accounting codes that permit comparison and analysis of expenditures across school districts. Further, in most states, these are public access documents as are district (and school, where available) budgets. School board meetings where budgets are discussed are generally open to the public as well. The above are valuable tools that make all school districts fiscally accountable to their respective communities. In addition, if individual schools have site councils, their meetings are usually open to the public unless they are discussing sensitive personnel issues.

#### *Stability*

Stability refers to a school district’s ability to predict the amount of funding it will receive from year to year in order to plan effectively for student instruction and to maintain successful programs. However, to a great extent, stable funding is outside the scope of control of school districts because they are dependent upon taxpayer funds at the local, state, and federal levels. During economic downturns like the present, school districts often find themselves having to make sudden, deep cuts that threaten their ability to provide all students with the education necessary to succeed. Urban schools are often disproportionately affected in these situations because of their heavier reliance on state and federal funds and low local tax base. In the present state budget crises, urban schools are particularly vulnerable. States without significant reserves or rainy day funds, like Wisconsin, will likely make the deepest and most damaging cuts over the course of a recession. Federal fiscal stabilization funding to states is of assistance, but in many cases it will not be sufficient to make up for state budget shortfalls. The lesson to be learned is the importance for stakeholders to exert pressure on state-elected officials to allocate sufficient moneys to state rainy day funds when the economy is strong and there are revenue surpluses so that publicly funded services like education are buffered during economic downturns.

#### **How Are Urban School Districts Funded?**

In general, urban school districts, like their nonurban counterparts, receive funding (or revenues) from three major sources: (1) federal aid; (2) state aid; and (3) local property taxes.<sup>10, 11</sup> Because the provision and funding of public elementary and secondary education is constitutionally a state responsibility in the United States, state aid comprises a major source of revenue for most school districts (Thompson, Wood, and Crampton 2008). On average, school

districts receive 46.1% of their budgets from state aid and 45.3% from local property taxes with the remaining 8.6% in the form of federal aid (Snyder et al. 2009). These percentages are similar for urban school districts although they generally receive a slightly higher percentage of federal aid and are somewhat less reliant upon property tax revenues.<sup>12</sup> Yet because the property tax is one of the few taxes that the general public votes on (unlike income or sales tax), it is a very visible and unpopular tax, and urban school districts often meet voter resistance to raising property taxes.<sup>13</sup> The role of the property tax is further complicated for urban school districts because the total value of their property to be taxed is lower than that of the suburbs that ring them. This often comes as a surprise to the average taxpayer who looks at beautiful downtown buildings and multimillion dollar high rise condominiums and concludes that the city has vast property wealth that urban schools can access. However, the property tax base comprises all residential and business property in the city, including vast tracts of poor housing and abandoned, blighted or undeveloped properties worth very little.

Because state aid is such an important part of school district budgets, it is helpful to have a clear understanding of it. Generally speaking, school districts receive two types of state aid, basic and categorical. In addition, aid can be weighted or unweighted. State basic aid is general purpose in that school districts may use it for any legitimate operating expenditure, such as personnel, maintenance, and supplies and equipment. On the other hand, state categorical aid is targeted for a specific purpose, such as special education, English language learners (ELLs), transportation, and gifted and talented programs. While basic aid generally addresses horizontal equity issues by allocating a set amount per pupil across the state, categorical aid addresses vertical equity issues by allocating funding to particular types of students who need additional resources to be academically successful. States may also use weighted formulas to provide additional funding to particular groups of students. For example, ELL students might be weighted 1.25 in the state's funding formula such that they receive 25% more funding than a regular student. As such, weighting may be used instead of or in addition to categorical aid to achieve vertical equity.

Important questions to ask about state aid are: How does your state decide how much to spend on aid to school districts; how is it allocated between basic and categorical aid; what categorical programs are funded and at what levels; and are weights used, and, if so, what are those weights? Answers to all of these questions are decided in the political domain of the state legislature and governor. For example, 49 out of 50 states provide additional funding for special education; and, of those, 20 use some type of weighting (Verstegen and Jordan 2009). However, only 34 states provide additional funding for low income students and only 37 do so for ELLs. Because urban school districts generally have relatively large numbers and high percentages of low income students, ELLs, and students with special needs, they may find themselves disadvantaged by state systems that either do not fund these services or do so in a minimal fashion.

In spite of the complexity of many state education funding systems, those concerned about the welfare of urban children must educate themselves about the various funding formulas to ascertain whether or not their school districts are receiving adequate and equitable funding. Then, armed with this information, they need to become politically active, for example, by communicating their concerns individually, or in concert with like-minded grass roots organizations,

with elected officials. Clearly, funding to provide equal educational opportunity for urban students is essential. Concerned parents and community members may be surprised to learn that their elected officials do not fully understand the state education funding system, much less how it may work to the benefit or detriment of urban school districts. As such, individual citizens can serve an important role in the political arena by educating their elected representatives.

### **The Funding Needs of Urban School Districts**

The stark reality is that urban school districts require a higher level of per pupil funding than most other types of school districts. There are two major reasons for this: cost factors associated with urban areas; and the higher incidence of at-risk students. With regard to cost factors, the cost of living in general is higher in urban areas than nonurban communities. This translates into higher costs of goods and services not only for individuals but also for schools. While some may argue that the larger size of urban school districts should result in economies of scale, for example, in purchasing supplies and equipment, this is not always the case, and even where it is, the savings may be offset by higher labor and operational costs. In general, workers in urban areas are more likely to be unionized resulting in higher wages and benefits than those for nonunionized employees. Because personnel costs consume on average 70% to 80% of school district budgets (Thompson et al. 2008), urban schools are disproportionately affected. In addition, urban school districts tend to have older facilities than those in nonurban school districts, and these are generally more expensive to maintain and less energy efficient (Crampton, 2003).

Urban school districts also have a higher incidence of at-risk students who require additional fiscal resources to be academically successful. Here, at-risk is defined as at risk of academic failure or failure to graduate high school (Stringfield and Land 2001, vii). More specifically, categories of risk include poverty, disability; minority race/ethnicity; ELL; urbanicity; and low parental education attainment (Land and Legters 2002). There exists now considerable research evidence that these students need additional resources to be academically successful (Duncombe, 2005; Baker and Duncombe 2004; Duncombe, Lukemeyer, and Yinger 2003; Grissmer, Flanagan, and Williamson 1998; Reschovsky and Imazeki 1996). Yet, as noted earlier, urban school districts spend approximately the same amount per pupil as their nonurban counterparts.

Given the research evidence above, it is disturbing that 16 states do not provide additional funding for low income students, and 13 do not fund ELL programs (Verstegen and Jordan 2009). In addition, only 13 states provide additional funding for racial/ethnic minority students while just 10 states fund programs to improve parental education attainment (Vesely et al. 2008). Finally, only two states target additional funding to urban students. Also of concern to urban school districts is state aid for school facilities construction, renovation, additions, or retrofitting. Here, only 39 states provide any assistance, and in those states that do, the aid rarely covers the full cost (Verstegen and Jordan 2009). Yet, there is emerging research evidence that points to the importance of the physical environment of schools in student academic success (Crampton 2009).

Those committed to the academic success of urban students must hold their local school boards and state elected officials accountable for the inadequate and inequitable funding of urban school districts. At the same time, adequate funding of urban schools alone will not

address the systemic problems of America's urban centers that affect children and their ability to learn (Anyon, 2005). Land and Legters' (2003) finding that urban students are at risk simply because they live in urban areas, independent of other risk factors, is a case in point. They hypothesized that urban environments impact student learning because they are more stressful for students due to issues such as crime and safety. Anyon (2005) added: low job availability; high tax rates; insufficient public transportation; and the lack of affordable housing. All of these contribute to instability in children's lives and the high rate of mobility for urban students. High mobility and high rates of absenteeism in turn lead to lower academic achievement and graduation rates. Although adequate, equitable, and stable funding for urban schools is critical, it alone is not sufficient if the conditions in which urban children live are not improved. This fact complicates the task facing those whose goal is to see urban students be academically successful. In order to improve academic success, advocates will need to build coalitions with other individuals and groups who are working toward improving the overall urban environment.

### Conclusion and Recommendations

Public elementary and secondary schools in the United States are called upon by society and government to achieve many aims. Historically, they have expected schools to prepare students to become active participants in a democratic society and to equip them with the basic literacy and numeracy skills needed as consumers and workers. More recently, public schools have been charged with providing students with critical thinking skills required to be successful in an information-rich, global economy. Because many urban school districts have lower standardized test scores and graduation rates than their nonurban counterparts (Schneider 2007; Swanson 2004), they have become a focus of local, state, and national concern. At the same time, the demographics of urban school districts differ significantly from their nonurban school counterparts (with the exception of some remote/rural school districts); that is, urban school districts have a higher percentage of students in poverty, students with disabilities, ELLs, and ethnic minority students. Research evidence supports additional financial resources so that these children will be academically successful; yet the data show that on average urban school districts spend at about the same level as nonurban districts.

Because state aid and local property taxes comprise the majority of school district revenues, this article focused on a framework that enables those concerned about the academic success of urban students to engage in more productive, solution-oriented discussions. The concepts of equity, adequacy, efficiency, accountability, and stability provide a framework for analysis of education funding systems to ensure that all children are treated fairly, especially those with additional needs and challenges. This article ends with a set of recommendations for those who would like to become engaged in such a discourse:

- Use the framework of equity, adequacy, efficiency, accountability, and stability to engage others in discussions of urban school funding and student success.
- Challenge unsupported, defeatist statements and negative generalizations about urban schools, students, and their funding wherever they appear, such as media accounts, reports, or pronouncements by "experts" or elected officials.

- Seek evidence-based and research-based information from reliable, objective sources; and use such information in your discourse.
- Be wary of reports whose authors/publishers do not (or will not) cite data/information sources or do not fully explain the research or analytic methods used to reach conclusions.
- Exercise your right to access public documents, like school and district budgets and audits. Some schools and districts even make these available on their web sites.
- Attend community, school council, and school board meetings when school/district budgets and finance are discussed. Ask questions and express your views. If you are unable to attend these meetings, ask if they can be viewed on local cable television programs or the Internet in real time or later. Follow up with emails or phone calls to ask questions and express your views.
- Because state aid is often a significant part of urban school districts budgets, contact your state legislators and governor during state budget discussions to advocate for equitable, adequate, and stable funding for urban students.
- Build or join coalitions with individuals and organizations concerned about urban issues such as jobs, safety, health, and affordable housing in order to pressure elected officials to address all of the factors that affect urban students' academic success.

### Endnotes

<sup>1</sup> Others like Fermanich and Kimball (2002) have been somewhat less harsh in their criticism stating urban schools can improve student achievement by reallocation of resources.

<sup>2</sup> This is problematic as there are a number of school districts across the country with student enrollments of 35,000 or more that would not be considered urban. For example, some states, like Florida, have only county school districts, many of which exceed 35,000 students.

<sup>3</sup> In addition, the largest school district in any state may join so that, for example, a sparsely populated state such as Wyoming whose largest city, Cheyenne, population 55,314, would be eligible to join CGCS.

<sup>4</sup> Such as the high incidence of student in poverty and English language learners.

<sup>5</sup> 2008 represented the latest year of national data available.

<sup>6</sup> Calculated from data in the Common Core of Data, National Center for Education Statistics (Washington, DC: U.S. Department of Education, Institute for Education Sciences, 2010) <http://nces.ed.gov/ccd>.

<sup>7</sup> Source: Urban Education in America, Table E.1.a.-2, Expenditures per public elementary and secondary student, by type, locale, and district poverty level: School year 2006-07, <http://nces.ed.gov/surveys/ruraled/tables/e.1.a.-2.asp?refer=urban>.

<sup>8</sup> The Wisconsin and national data presented here refer to normal operating expenditure. As such, expenditures on capital outlay or facilities are not included. In the case of Wisconsin, food and community service were also excluded to make the expenditure data comparable to national data.

<sup>9</sup> The best known federal legislation is the No Child Left Behind Act of 2001 (NCLB). However, prior to passage of NCLB, most states had in place academic standards and statewide assessments (Goertz and Duffy 2001).

<sup>10</sup> Note that the sources of federal and state aid are federal and state tax revenues. These usually include federal and state income tax revenues as well as state sales tax revenues.

<sup>11</sup> Urban school districts might also receive private funds, such as grants from philanthropic organizations, but generally speaking these comprise a very small percentage of total funding.

<sup>12</sup> The Milwaukee Public Schools is a notable exception to the national averages in that the district receives approximately 80% of its operating budget in state aid.

<sup>13</sup> Note that some urban school districts, under their respective state laws, may not need to obtain voter approval. However, in some cases urban school districts may need the approval of other governmental bodies, such as the city council.

## References

Anyon, J. 2005. *Radical possibilities*. New York: Routledge.

Baker, B., and W. Duncombe. 2004. Balancing district needs and student needs: The role of economies of scale adjustments and pupil need weights in school finance formulas. *Journal of Education Finance* 29 (3): 195-222.

*Campaign for Fiscal Equity v. State of New York*. 2003. 100 NY2d 893, 801 NE2d 326, 769 NYS2d 106.

*Campaign for Fiscal Equity v. State of New York*. 2006. NY Slip Op 8630; 8 NY3d, 861 NE2d 50, 828 NY S2d 235.

Crampton, F.E. 1990. Adequacy and stability in Oregon school finance. *Journal of Education Finance* 15 (3): 351-375 .

Crampton, F.E. 2003. Unmet school infrastructure funding need as a critical educational capacity issue: Setting the context. In *Saving America's school infrastructure*, ed. F.E. Crampton and D.C. Thompson, 3-26. Greenwich, CT: Information Age Publishing.

Crampton, F.E. 2009. Spending on school infrastructure: Does money matter? *Journal of Educational Administration* 47 (3): 305-322.

Crampton, F.E., and T.N. Whitney. 1996. *Principles of a sound state school finance system*. Denver, CO and Washington, DC: National Conference for State Legislatures.

Crampton, F.E., and R.S. Vesely. 2006. Resource allocation issues for educational leaders. In *Handbook for excellence in school leadership*, 4th ed., ed. S.C. Smith and P.K. Piele, 401-427. Thousand Oaks, CA: Corwin Press.

Day, J.C., and E.C. Newburger. 2002. The Big Payoff: Educational Attainment and Synthetic Estimates of Work-life Earnings. Washington, DC: U.S. Census Bureau.

Duncombe, W., and J. Yinger. 2005. How much more does a disadvantaged student cost? *Economics of Education Review* 24 (5): 513-532.

Duncombe, W., A. Lukemeyer, and J. Yinger. 2003. Financing an adequate education: A case study of New York. In *Developments in School Finance: 2001-02*, ed. W.J. Fowler, Jr., 127-153. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Fermanich, M.L., and S.M. Kimball. 2002. You can get there from here: How three urban schools could use existing resources to afford comprehensive school reform. *Journal of Education Finance* 28 (1): 75-95.

Goertz, M.E., and M.C. Duffy, with K.C. Le Floch. 2001. *Assessment and accountability in the 50 States: 1999-2000*. CPRE Research Report Series, RR-046. Philadelphia, PA: Consortium for Policy Research in Education.

Grissmer, D., A. Flanagan, and S. Williamson. 1998. Does money matter for minority and disadvantaged students: Assessing the new evidence. In *Developments in School Finance: 1997*, ed. W.J. Fowler, W.J., 13-30. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Grubb, W.N. 2009. *The money myth*. New York: Russell Sage.

Land, D., and N. Legters. 2002. The extent and consequences of risk in U.S. education. In *Educating at-risk children*, ed. Sam Stringfield and Deborah Land, 1-28. Chicago, IL: University of Chicago Press.

Lochner, L., and E. Moretti. 2003. The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. Working paper series. Los Angeles, CA: UCLA, Department of Economics.

National Education Association. 2007. *Rankings & estimates: Rankings of the states 2006 and estimates of school statistics 2007*. Washington, DC: NEA Research.

No Child Left Behind Act of 2001. Public Law 107-110.

Reschovsky, R., and J. Imazeki. 1998. The development of school finance formulas to guarantee the provision of adequate education to low-income students. In *Developments in School Finance: 1997*, ed. W. J. Fowler, Jr., 121-148. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Schneider, M. 2007. *National Assessment of Educational Progress: The Nation's Report Card: Trial Urban District Assessment: 2007 Reading & Mathematics Results at Grades 4 and 8*. [http://nces.ed.gov/whatsnew/commissioner/remarks2007/11\\_15\\_2007.asp](http://nces.ed.gov/whatsnew/commissioner/remarks2007/11_15_2007.asp).

Snyder, T.D., S.A. Dillow, and C.M. Hoffman. 2009. *Digest of Education Statistics 2008*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences.

Stringfield, S., and D. Land, ed. 2002. *Educating at-risk children*. One hundred-first yearbook of the National Society for the Study of Education, Part II. Chicago, IL: University of Chicago Press.

Swanson, C. B. 2004. *Who graduates? Who doesn't?* Washington, DC: Education Policy Center, The Urban Institute.

Thompson, D.C., and F.E. Crampton. 2002. The impact of school finance litigation: A long view. *Journal of Education Finance* 27 (3): 783-816.

Thompson, D.C., R.C. Wood, and F.E. Crampton. 2008. *Money & schools*, 4th ed. Larchmont, NY: Eye on Education.

Thornberry, T.P., M. Moore, and R.L. Christenson. 1985. The effect of dropping out of high school on subsequent criminal behavior. *Criminology* 23 (1): 3-18.

U.S. Census Bureau (2006). *State & County Quickfacts*. <http://quickfacts.census.gov/qfd>.

U.S. Department of Education. (2010a). Common Core of Data. National Center for Education Statistics. Washington, DC: National Center for Education Statistics, Institute for Education Sciences. <http://nces.ed.gov/ccd>.

U.S. Department of Education. (2010b). Urban Education in America. Washington, DC: National Center for Education Statistics, Institute for Education Sciences. <http://nces.ed.gov/surveys/urbaned>.

Verstegen, D.A., and T.S. Jordan. 2009. A fifty-state survey of school finance policies and programs: An overview. *Journal of Education Finance* 34 (3): 212-230.

Vesely, R.S., F.E. Crampton, F.E. Obiakor, and M. Sapp. 2008. The role of states in funding education to achieve social justice. *Journal of Education Finance* 34 (1): 56-74.

Wisconsin Department of Public Instruction 2008. *Enrollment and Participation for 2008*. <http://dpi.wi.gov/fns/xls/enrollpartoct2008.xls-297.5KB>.

Wisconsin Department of Public Instruction. 2009. *School Finance Data Warehouse: Comparative Cost per Member FY 2006-2007*. [http://www2.dpi.state.wi.us/sfsdw/Std\\_Rpts\\_Results.asp](http://www2.dpi.state.wi.us/sfsdw/Std_Rpts_Results.asp).

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Guest edited by Teresa Northern Miller, Kansas State University.

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